

Phase Two Environmental Site Assessment

8079 Eighth Line
Halton Hills, Ontario

Prepared For:

Mr. Glen Hansen
8079 Eighth Line, P.O. Box 36
Halton Hills, Ontario
L9T 2Y3

DS Project No: 19-040-101

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DS CONSULTANTS LTD.
6221 Highway 7, Unit 16
Vaughan, Ontario, L4H 0K8
Telephone: (905) 264-9393
www.dsconsultants.ca

Executive Summary

DS Consultants Ltd. (DS) was retained by Mr. Glen Hansen (the “Client”) to conduct a Phase Two Environmental Site Assessment (ESA) of the Property located at 8079 Eighth Line, Halton Hills, Ontario, herein referred to as the “Phase Two Property” or “Site”. DS understands that this Phase Two ESA has been requested for due diligence purposes in association with the proposed redevelopment of the Site as a water park.

The Phase Two ESA was completed in general accordance with the requirements, methodology and practices for a Phase Two ESA as described in Ontario Regulation 153/04 (as amended). The objective of this Phase Two ESA is to confirm whether contaminants are present, and at what concentration are they present on the Phase Two Property, as related to the Areas of Potential Environmental Concern (APEC) identified in the Phase One ESA.

The Phase Two Property is a 19.075-hectare (47 acres) parcel of land situated within a mixed residential, commercial and agricultural area in the Town of Halton Hills Ontario. The Phase Two Property is situated on the northeast corner of the intersection of Steeles Avenue and Eighth Line and was vacant of structures at the time of this assessment. The Phase One ESA completed in November 2019 identified that the Site was first developed prior to 1946 for residential/agricultural purposes with a rural homestead, associated barn and an inferred shed. These structures were demolished in 2017. There are two (2) watercourses on the Site including the East Sixteen Mile Creek, and an associated tributary. The land adjacent to the East Sixteen Mile Creek are designated in the Halton Region Official Plan as a natural heritage feature. Two (2) potentially contaminating activities (PCAs) were identified on the Site, associated with two (2) areas of potential environmental concern (APECs), namely the historical presence of an orchard in the northern portion of the Site, and the presence of fill material of unknown quality in the vicinity of the former site buildings. Table E-1 below summarizes the APECs identified.

Table E-1: Summary of APECs

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC-1	Northern portion of Site	PCA 40: Pesticides (including herbicides, fungicides and anti-fouling	On Site	Metals, As, Sb, Se, CN, OC Pesticides	Soil

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
		agents) manufacturing, processing, bulk storage and large-scale application -Historical presence of Orchard On-Site			
APEC- 2	Vicinity of former site buildings	PCA 30: Importation of Fill Material of Unknown Quality	On Site	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil

Based on the findings of the Phase One ESA it was concluded that a Phase Two ESA is warranted in order to assess the soil conditions on the Phase Two Property.

The Phase Two ESA involved the collection of six (6) topsoil samples on May 15, 2020 within APEC-1 and the advancement of seven (7) exploratory test pits to a maximum depth of 1.8 mbgs on May 27, 2020 to assess the environmental quality of the fill material within APEC-2. Based on the results of the sampling conducted on May 27, 2020, an additional fifteen (15) test pits were advanced within APEC-2 on May 29, 2020. Groundwater was not identified as a media of potential environmental concern; therefore, groundwater sampling was not completed as part of this investigation. All APECs were investigated in accordance with the requirements of O.Reg. 153/04 (as amended). Soil samples were collected and submitted for analysis of all PCOCs, including PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs and OC Pesticides.

The Site contains a natural heritage feature associated with the East Sixteen Mile Creek and is classified as environmentally sensitive as a result. Based on this the soil analytical results were compared to the “Table 1: Full Depth Background Site Condition Standards for Residential/Parkland/Institutional/Industrial/Commercial/ Community use” provided in the MECP document entitled, “*Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act*” dated April 15, 2011 (Table 1 Standards).

Based on the findings of the Phase Two ESA, DS presents the following findings:

- ◆ Gravelly sand fill material was identified in all test pits with the exception of TP20-2, in which topsoil was encountered at the ground surface. Inclusions of asphalt and rootlets were observed in test pits TP20-3 and TP20-4. A layer of disturbed native (clayey silt/silty clay) was encountered beneath the fill material, and was generally underlain by clayey silt and sandy silt till. Groundwater was not encountered in any of the test pits completed.
- ◆ The soil quality with respect to APEC-1 was investigated through the collection of six (6) topsoil samples which were submitted for analysis of metals and ORPs and OC pesticides. All of the soil samples analysed within APEC-1 met the applicable MECP Table 1 SCS for the parameters analysed.
- ◆ The soil quality with respect to APEC-2 was initially assessed through the advancement of seven (7) test pits, which were used to collect soil samples for analysis of metals and ORPs, PHCs, VOCs and PAHs. The results of the May 27, 2020 sampling event identified the following soil impacts:
 - TP20-1 S1 (0-0.8 mbgs) – EC value of 0.7 mS/cm exceeded criteria of 0.57 mS/cm
 - TP20-3 S1 (0-0.5 mbgs) – PHC F2-F4 and PAH impacts identified. Vertical extent of soil impacts found to be less than 1.5 mbgs.
 - TP20-4 S1 (0-0.6 mbgs) – PHC F2-F4 and PAH impacts identified. Vertical extent of soil impacts found to be less than 1.5 mbgs.
 - TP20-5 S1 (0-0.4 mbgs) – PHC F3-F4 impacts identified. Vertical extent of soil impacts found to be less than 1.5 mbgs.
- ◆ Six (6) soil samples, including one (1) QA/QC duplicate were collected within a 1.5 metre radius of sample TP20-1 S1 on May 29, 2020 and submitted for analysis of EC. All of these samples (TP20-1 C1 to C5, and Dup-5) met the Table 1 SCS. Further, the average EC value of the seven samples collected within a 1.5 metre radius of TP20-1 (including the original sample) is 0.27. Per section 48.2 of O.Reg. 153/04, which states, “If two or more samples of soil or sediment are taken from sampling points at the same sampling location that are at the same depth in, on or under the property, the property meets a standard mentioned in subsection (1) if the average of the sampling results meets the standard and in no other circumstances (O.Reg. 153/04 s.48(2)). Based on this consideration, the soil quality in the vicinity of TP20-1 is considered to meet the Table 1 SCS for metals and ORPs.

- ◆ Additional soil characterization within APEC-2 was completed on May 29, 2020 through the advancement of fifteen (15) additional test pits. Soil samples were collected for analysis of metals and ORPs, PHCs and PAHs. The results of the May 29, 2020 sampling event identified the following soil impacts:
 - TP20-10 S1 – PHCs F2-F4, various PAHs
 - TP20-12 S1 – PHCs F2-F4, elevated detection limits for PAHs
 - TP20-13 S1 – PHCs F3-F4, elevated detection limits for PAHs
 - TP20-15 S1 – PHCs F3-F4, Dibenz(a,h)anthracene, elevated detection limits for other PAHs
 - TP20-17 S1 – PHCs F2-F4, elevated detection limits for PAHs
 - TP20-18 S1 – PHCs F4
 - TP20-19 S1 – PHCs F2-F4, Dibenz(a,h)anthracene, elevated detection limits for other PAHs
 - TP20-20 S1 – PHCs F2-F4, Dibenz(a,h)anthracene, elevated detection limits for other PAHs
 - TP20-21 S1 – PHCs F2-F4, elevated detection limits for PAHs
 - TP20-22 S1 – PHCs F2-F4, various PAHs

Based on a review of the findings of this Phase Two ESA, DS presents the following conclusions and recommendations:

- ◆ The soil quality within APEC-1 was confirmed to meet the applicable MECP Table 1 SCS for the relevant contaminants of potential concern.
- ◆ Soil impacts were identified in test pits TP20-3, TP20-4, TP20-5, TP20-10, TP20-12, TP20-13, TP20-15, TP20-17, TP20-18, TP20-19, TP20-20, TP20-21 and TP20-22. The vertical extent of the impacts was found to be less than 1.5 mbgs in test pits TP20-3, TP20-4 and TP20-5.
- ◆ The soil impacts identified are attributed to the historical placement of fill material in the vicinity of the former barn for grading purposes. The soil impacts appear to be localized within the vicinity of APEC-2.
- ◆ It is anticipated that the soil impacts identified can be remediated by excavation and off-site disposal. Confirmatory sampling in accordance with O.Reg. 153/04 (as amended) is recommended upon completion of the any future cleanup activity.

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1.0 Introduction

DS Consultants Ltd. (DS) was retained by Mr. Glen Hansen (the “Client”) to conduct a Phase Two Environmental Site Assessment (ESA) of the Property located at 8079 Eighth Line, Halton Hills, Ontario, herein referred to as the “Phase Two Property” or “Site”. DS understands that this Phase Two ESA has been requested for due diligence purposes in association with the proposed redevelopment of the Site as a water park.

The intended future commercial property use is not considered to be a more sensitive property use as defined under O.Reg. 153/04 (as amended) than the previous residential use; therefore the filing of a Record of Site Condition (RSC) with the Ontario Ministry of Environment, Conservation and Parks (MECP) is not mandated under O.Reg. 153/04.

The Phase Two ESA was completed in general accordance with the requirements, methodology and practices for a Phase Two ESA as described in Ontario Regulation 153/04 (as amended). The objective of this Phase Two ESA is to confirm whether contaminants are present, and at what concentration are they present on the Phase Two Property, as related to the Areas of Potential Environmental Concern (APEC) identified in the Phase One ESA.

1.1 Site Description

The Phase Two Property is a 19.075-hectare (47 acres) parcel of land situated within a mixed residential, commercial and agricultural area in the Town of Halton Hills, Ontario. The Phase Two Property is situated on the northeast corner of the intersection of Steeles Avenue and Eighth Line and was vacant of structures at the time of this assessment. A Site Location Plan is provided in Figure 1. A Topographic Sketch for the Phase One Property dated June 7, 2019 and prepared for Hodero Holdings Ltd. by Dolliver Surveying Inc., an Ontario Land Surveyor, has been provided under Appendix A.

There are three (2) watercourses on the Site including the East Sixteen Mile Creek, and an associated tributary. The land adjacent to the East Sixteen Mile Creek are designated in the Halton Region Official Plan as a natural heritage feature.

The Phase One ESA completed in November 2019 identified that the Site was first developed prior to 1946 for residential/agricultural purposes with a rural homestead, associated barn and an inferred shed. These structures were demolished in 2017.

Additional details regarding the Phase Two Property are provided in the table below.

Table 1-1: Phase Two Property Information

Criteria	Information	Source
Legal Description	Part of Lot 1, Concession 9 (ESQ), Being Part 1 Plan 20R-20358, Halton Hills, Ontario	Land Registry Office
Property Identification Number (PIN)	25025-0078 (LT)	Land Registry Office
Current Site Occupants	Vacant	Phase One ESA Site Reconnaissance
Site Area	19.075 hectares (47 acres)	Signed Topographic Sketch

1.2 Property Ownership

The ownership details for the Phase Two Property are provided in the table below.

Table 1-2: Phase Two Property Ownership

Property Owner	Address	Contact
8079 Eighth Line Halton Hills Inc.	Glen Hansen 8079 Eighth Line, P.O Box 36 Milton, Ontario, L9T 3Y3 Phone : 416-523-8379	Phone : 416-523-8379 Email: jennifer@jlplanning.ca

1.3 Current and Proposed Future Use

The Phase Two Property was most recently used for residential and agricultural purposes but is currently vacant. It is DS' understanding that redevelopment of the Site with a water park has been proposed.

1.4 Applicable Site Condition Standards

The Phase Two Property is a mixed residential and agricultural property located within the Town of Halton Hills and the proposed future land use is commercial.

Under Section 41 of O.Reg. 153/04 (as amended), the Site is classified as “environmentally sensitive” if the pH of the surface soil (ground surface to 1.5 metres below ground surface) is less than 5 or greater than 9, if the subsurface soil (deeper than 1.5 mbgs) is less than 5 or greater than 11, or if the Site is considered to be an area of natural significance or is adjacent to or contains land within 30 metres of an area of natural significance.

Based on a review of the Halton Hills Official Plan, a natural heritage feature associated with the East Sixteen Mile Creek is present on-Site. As such, the Phase Two Property is considered to be environmentally sensitive.

The applicable Site Condition Standards (SCS) for the Phase Two Property are considered by the Qualified Person (QP) to be the Table 1 SCS: Full Depth Background Site Condition Standards for all property uses other than agricultural (Table 1 SCS) as contained in the April 15, 2011 Ontario Ministry of Environment, Conservation and Parks (MECP) document entitled “Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act”, herein referred to as the “Table 1 SCS”.

2.0 Background Information

2.1 Physical Setting

2.1.1 Water Bodies and Areas of Natural Significance

Two ponds were observed at the time of site reconnaissance, one in the center and the other one on the southeast portion of the Site. The East Sixteen Mile Creek traverses the east side of the Site, flowing in a southern direction.

Natural Heritage Features are natural areas that have been identified as significant and worthy of protection on three criteria – ecology, hydrology and geology. Municipalities have developed policies to protect natural heritage features. The Region uses the Natural Heritage System as a means to protect natural areas like wetlands, fish habitat, woodlands, habitat of rare species, groundwater recharge and discharge areas, and Areas of Natural and Scientific Interest.

A natural heritage feature as designated by the Halton Region Official Plan is present on the Phase Two Property, associated with the East Sixteen Mile Creek.

2.1.2 Topography and Surface Water Draining Features

The topography within the Phase One Study Area was generally uneven and sloped to the east, towards East Sixteen Mile Creek. The nearest body of water is East Sixteen Mile Creek and its tributaries located in a north-south orientation on the eastern portion of the Site. Based on a review of the MECP well records, the depth to groundwater in the vicinity of the Site is approximately 6 m. The shallow groundwater flow direction within the Phase One Study Area is inferred to the southeast towards East Sixteen Mile Creek.

Surface water flow associated with precipitation events is anticipated to run overland into the East Sixteen Mile Creek and its tributary on-site.

2.2 Past Investigations

2.2.1 Previous Report Summary

The following environmental and geotechnical reports were provided for DS to review:

- ◆ Phase One Environmental Site Assessment, 8079 Eighth Line, Halton Hills, Ontario. Dated November 28, 2019. Prepared for Mr. Glen Hansen, prepared by DS Consultants Ltd.

The Phase One ESA completed in November 2019 identified that the Site was first developed prior to 1946 for residential/agricultural purposes with a rural homestead, associated barn and an inferred shed. These structures were demolished in 2017. Two (2) potentially contaminating activities were identified on the Site, associated with the historical presence of an orchard in the northern portion of the Site, and the presence of fill material of unknown quality in the vicinity of the former site buildings. Additional details are provided in the Phase One Conceptual Site Model. Refer to Section 3.3.

2.2.2 Use of Previous Analytical Results

Not applicable, no previous analytical results were available for review.

3.0 Scope of the Investigation

The scope of the Phase Two ESA was designed to investigate the portions of the Site determined in the Phase One ESA to be Areas of Potential Environmental Concern. This Phase Two ESA was conducted in general accordance with O.Reg. 153/04 (as amended). The scope of the investigation including the subsurface investigation, sampling, and laboratory analysis was based on the findings of the Phase One ESA and was limited to the portions of the site which were accessible.

3.1 Overview of Site Investigation

The following tasks were completed as part of the Phase Two ESA:

- ◆ Preparation of a Health and Safety Plan to ensure that all work was executed safely;

- ◆ Clearance of public private underground utility services prior to commencement of subsurface investigative operations;
- ◆ Preparation of a Sampling and Analysis Plan (SAP);
- ◆ Collection of six (6) topsoil samples utilising hand-held tools within the north-western portion of the Site on May 15, 2020;
- ◆ Excavation of a total of seven (7) test pits on May 27, 2020 to a maximum depth of 1.8 mbgs within the central portion of the Site;
- ◆ The soil lithology in the test pits was logged during drilling, and representative soil samples were collected at regular intervals. The soil samples were screened for organic vapours using (RKI Eagle 2 MultiGas Detector,), and examined for visual and olfactory indications of soil impacts;
- ◆ “Worst case” soil samples collected from the test pits were submitted for laboratory analysis of relevant contaminants of potential concern (COPCs) as identified in the Phase One ESA;
- ◆ Following issue of the test pit results, fifteen (15) additional soil samples were collected from within APEC-2 on May 29, 2020. Soil samples were collected at a maximum depth of 0.6 mbgs utilising hand-held tools to further characterize the fill quality within APEC-2. Five (5) additional soil samples were also collected within a 1.5 metre radius of sample TP20-1 to verify the presence/absence of EC impacts in soil at that test pit location.
- ◆ Compared all soil analytical data to the applicable MECP SCS; and
- ◆ Prepared a Phase Two ESA Report in general accordance with O.Reg. 153/04 (as amended).

3.2 Media Investigated

3.2.1 Rationale for Inclusion or Exclusion of Media

Table 3-1: Rationale of Sampling Media

Media	Included or Excluded	Rationale
Soil	Included	Soil was identified as a potentially impacted media in the Phase One ESA, based on the historical operations conducted on-Site.
Groundwater	Excluded	Groundwater was not identified as a potentially impacted media in the Phase One ESA

Media	Included or Excluded	Rationale
Sediment	Excluded	Sediment was not identified as a potentially impacted media in the Phase One ESA
Surface Water	Excluded	Surface water is identified as a potentially impacted media within the Phase One ESA

3.2.2 Overview of Field Investigation of Media

Table 3-2: Field Investigation of Media

Media	Methodology of Investigation
Soil	<p>Six (6) topsoil samples were collected on May 15, 2020 and were submitted for analysis of Metals and Inorganics (M&I) and Organochlorine Pesticides (OCs).</p> <p>A total of seven (7) test pits were excavated on the Phase Two Property on May 27, 2020, to a maximum depth of 1.8 mbgs. Soil samples were collected and submitted for analysis of M&I, Petroleum Hydrocarbons (PHCs), Volatile Organic Compounds (VOCs), and Polycyclic Aromatic Hydrocarbons (PAHs).</p> <p>Fifteen (15) additional test pits were advanced on May 27, 2020 to a maximum depth of 0.6 mbgs. Soil samples were collected and submitted for analysis of PHCs (F2-F4), PAHs and metals.</p> <p>Five (5) additional soil samples were collected within a 1.5m radius of TP20-1 on May 29, 2019 to assess the average EC value in the vicinity of TP20-1.</p>
Groundwater	Not applicable, groundwater was not identified as a media of potential concern.

3.3 Phase One Conceptual Site Model

A Conceptual Site Model was developed for the Site, located at 8079 Eighth Line, Halton Hills, Ontario. The Phase One Conceptual Site Model is presented in Drawings 3, 4, and 5 and visually depict the following:

- ◆ Any existing buildings and structures
- ◆ Water bodies located in whole, or in part, on the Phase One Study Area
- ◆ Areas of natural significance located in whole, or in part, on the Phase One Study Area

- ◆ Water wells at the Phase One Property or within the Phase One Study Area
- ◆ Roads, including names, within the Phase One Study Area
- ◆ Uses of properties adjacent to the Phase One Property
- ◆ Areas where any PCAs have occurred, including location of any tanks
- ◆ Areas of Potential Environmental Concern

3.3.1 Potentially Contaminating Activity Affecting the Phase One Property

All PCAs identified within the Phase One Study Area are presented on Figure 4. The PCAs which are considered to contribute to two (2) APECs on, in or under the Site are summarized in the table below:

Table 3-3: Summary of PCAs contributing to APECs

PCA Item.	PCA Description (Per. Table 2, Schedule D of O.Reg. 153/04)	Description	Rationale
1	PCA 40: Pesticides (including herbicides, fungicides and anti-fouling agents) manufacturing, processing, bulk storage and large-scale application	The 1880 County Atlas indicated that an orchard was formerly present in the northern portion of the Site	It is inferred that pesticides were applied liberally to the former orchard. Residues of recalcitrant pesticides may be present in the topsoil.
2	PCA 30: Importation of Fill Material of Unknown Quality	Fill material was reportedly imported to the Site	The environmental quality of the fill material is unknown.

N/S - not specified in Table 2, Schedule D, of O.Reg. 153/04

3.3.2 Contaminants of Potential Concern

The following contaminants of potential concern were identified for the Phase One Property: PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, electrical conductivity, Cr (VI), Hg, low or high pH, SAR, PAHs and OC Pesticides.

3.3.3 Underground Utilities and Contaminant Distribution and Transport

Underground utilities can affect contaminant distribution and transport. Trenches excavated to install utility services, and the associated granular backfill may provide preferential pathways for horizontal contaminant migration in the shallow subsurface.

Underground utilities were not identified at the Site as the former residential building on-Site had not utilised below-ground municipal services. Therefore, it is unlikely that the utility corridors would act as a preferential pathway for contaminant distribution and transport if shallow subsurface contaminants exist at the Site.

3.3.4 Geological and Hydrogeological Information

The topography within the Phase One Study Area generally uneven and sloped to the east, towards East Sixteen Mile Creek located east of the Site. The nearest body of water is the East Sixteen Mile Creek and its tributaries located within the eastern portion of the Site. Based on a review of the MECP well records, the depth to groundwater in the vicinity of the Site is approximately 6 m. The shallow groundwater flow direction within the Phase One Study Area is inferred to the east towards East Sixteen Mile Creek.

The Site is situated within a bevelled till plain physiographic region. The surficial geology within the Phase One Study area is described as fine-textured glaciolacustrine deposits, which may include silt and clay, minor sand and gravel with interbedded silt and clay, gritty, pebbly flow till and rainout deposits. The underlying bedrock within the area generally consists of shale, limestone, dolostone, and siltstone of the Queenston Formation; Based on a review of available well records the bedrock in the Phase One Study Area is anticipated to be encountered at an approximate depth range of 14 to 23 metres below ground surface (mbgs).

3.3.5 Uncertainty and Absence of Information

DS has relied upon information obtained from federal, provincial, municipal, and private databases, in addition to records and summaries provided by EcoLog ERIS. All information obtained was reviewed and assessed for consistency, however the conclusions drawn by DS are subject to the nature and accuracy of the records reviewed.

All reasonable inquiries were made to obtain reasonably accessible information, as mandated by O.Reg.153/04 (as amended). All responses to database requests were received prior to completion of this report. This report reflects the best judgement of DS based on the information available at the time of the investigation.

Information used in this report was evaluated based on proximity to the Phase One Property, anticipated direction of local groundwater flow, and the potential environmental impact on the Phase One Property as a result of potentially contaminating activities.

The QP has determined that the uncertainty does not affect the validity of the Phase One ESA Conceptual Site Model or the conclusions of this report.

3.4 Deviations from Sampling and Analysis Plan

The Phase Two ESA was completed in accordance with the SAP, with the exception of the additional sampling completed on May 29, 2020 for the purposes of horizontal delineation of impacts.

3.5 Impediments

DS was granted complete access to the Phase Two Property throughout the course of the investigation. No impediments were encountered.

4.0 Investigation Method

4.1 General

The Phase Two ESA followed the methodology outlined in the following documents:

- Ontario Ministry of the Environment “Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario” (December 1996);
- Ontario Ministry of the Environment “Guide for Completing Phase Two Environmental Site Assessments under Ontario regulation 153/04” (June 2011);
- Ontario Ministry of the Environment “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act” (July 2011) (Analytical Protocol);

The methods used in the Phase Two ESA investigation did not differ from the associated standard operating procedures.

4.2 Excavation and Soil Sampling

Soil sample collection was completed as follows:

- Six (6) topsoil samples (TS20-1 to TS20-6) were collected from within APEC-1 using hand-held tools on May 15, 2020.
- A total of seven (7) test pits (TP20-1 to TP20-7) were excavated on May 27, 2020 to a maximum depth of 1.8 mbgs within the central portion of the Site.
- Fifteen (15) additional shallow test pits (TP20-8 to TP20-22) were collected utilising a hand-held tool by DS, collected on May 29, 2020.
- Five (5) additional shallow soil samples (TP20-1 C1 to C5) were collected within a 1.5 metre radius of test pit 20-1 using hand-held tools on May 29, 2020

- Dedicated and disposable nitrile gloves were utilised to handle each soil sample. Additionally, the sampling tool – i.e. shovel/hand-held auger – was brushed down between samples in order to minimize cross contamination.

In addition to the above, soil samples were also collected via pit excavation.

A site visit was conducted prior to excavation in order to identify the test pit locations based on the APECs identified in the Phase One ESA. The selected sampling locations are presented on Figure 5. The sample locations were cleared of underground public and private utility services prior to commencement of excavation activities.

A summary of the excavation activities is provided in the table below.

Table 4-1: Summary of Excavation Activities

Parameter	Details
Excavation Contractor	Integroy Construction
Excavation Date	May 27, 2020
Excavation Equipment Used	Rubber Tire Backhoe
Measures taken to minimize the potential for cross contamination	<ul style="list-style-type: none">◆ Soil samples were extracted from the sidewalls of the test pits◆ Use of dedicated and disposable nitrile gloves for the handling of soil samples. A new set of gloves was used for each sample.
Sample collection frequency	Samples were collected and logged continuously. Soil samples were collected from discrete geological units at intervals less than 1 metre. Additional details are provided in the test pit logs provided in Appendix C.

All soil samples were collected by trained and suitably qualified DS technicians. A portion of each sample was placed in a re-sealable plastic bag for field screening, and the remaining portion was placed into laboratory supplied glass sampling jars. Samples intended for VOC and the F1 fraction of petroleum hydrocarbons analysis were collected using a laboratory-supplied soil core sampler, placed into the vials containing methanol for preservation purposes and sealed using Teflon lined septa lids. All sample jars were stored in dedicated coolers with ice for storage, pending transport to the analytical laboratory. A formal chain of custody was maintained for all samples submitted to the laboratory.

The subsurface soil conditions were logged by DS personnel at the time of excavation and recorded on field test pit logs. The test pit logs are presented under Appendix C. Additional detail regarding the lithology encountered in the test pits is presented under Section 6.1.

4.3 Field Screening Measurements

Soil samples retrieved from the test pits were screened in the field for visual and olfactory observations. The soil sample headspace vapour concentrations for the test pit soil samples recovered during the investigation were screened using portable organic vapour testing equipment in accordance with the procedure outlined in the MECP's *'Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario'*.

The soil samples were inspected and examined to assess soil type, ground water conditions, and possible chemical contamination by visual and olfactory observations or by organic vapour screening. Samples submitted for chemical analysis were collected from locations judged by the assessor to be most likely to exhibit the highest concentrations of contaminants based on several factors including (i) visual or olfactory observations, (ii) sample location, depth, and soil type (iii) ground water conditions and headspace reading. A summary of the equipment used for field screening is provided below:

Table 4-2: Field Screening Equipment

Parameter	Details
Make and Model of Field Screening Instrument	RKI Eagle 2, Model 5101-P2 Serial Number: E2G721
Chemicals the equipment can detect and associated detection limits	VOCs with dynamic range of 0 parts per million (ppm) to 2,000 ppm PHCs with range of 0 to 50,000 ppm
Precision of the measurements	3 significant figures
Accuracy of the measurements	VOCs: $\pm 10\%$ display reading + one digit Hydrocarbons: $\pm 5\%$ display reading + one digit
Calibration reference standards	PID: Isobutylene CGD: Hexane
Procedures for checking calibration of equipment	In-field re-calibration of the CGI was conducted (using the gas standard in accordance with the operator's manual instructions) if the calibration check indicated that the calibration had drifted by more than $\pm 10\%$.

A summary of the soil headspace measurements are provided in the test pit logs, provided under Appendix C.

4.4 Groundwater Monitoring Well Installation

N/A – No monitoring wells were installed as part of this Phase Two ESA.

4.5 Groundwater Field Measurement of Water Quality Parameters

N/A – No monitoring wells were installed as part of this Phase Two ESA.

4.6 Groundwater Sampling

N/A – Groundwater Sampling was not completed as part of this Phase Two ESA.

4.7 Sediment Sampling

Sediment sampling was not completed as part of this Phase Two ESA.

4.8 Analytical Testing

The soil samples collected were submitted to SGS Canada Inc. (SGS) under chain of custody protocols. SGS is an independent laboratory accredited by the Canadian Association for Laboratory Accreditation. SGS conducted the analyses in accordance with the MECP document “Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act” dated March 9, 2004 (revised on July 1, 2011).

4.9 Residue Management Procedures

4.9.1 Soil Cuttings From Drilling and Excavations

The test pit locations were backfilled and compacted upon completion of the sampling activities.

4.9.2 Water from Well Development and Purging

N/A – Groundwater was not encountered.

4.9.3 Fluids from Equipment Cleaning

Excess equipment cleaning fluids were stored in 20-L sealed plastic pails and temporarily stored on site for disposal by a MECP approved waste-hauler for disposal at a MECP-approved waste management facility.

4.10 Elevation Surveying

Elevation surveying was not completed as part of this Phase Two ESA.

4.11 Quality Assurance and Quality Control Measures

4.11.1 Sample containers, preservation, labelling, handling and custody for samples submitted for laboratory analysis, including any deviations from the SAP

All soil samples were stored in laboratory-supplied sample containers in accordance with the MECP Analytical Protocol. A summary of the preservatives supplied by the laboratory is provided in the table below.

Table 4-3: Summary of Sample Bottle Preservatives

Media	Parameter	Sample Container
Soil	PHCs F1 VOCs	40 mL methanol preserved glass vial with septum lid.
	PHCs F2-F4 metals and ORPs PAHs	120 mL or 250 mL unpreserved glass jar with Teflon™-lined lid.

All samples were placed in an ice-filled cooler upon completion of sampling and kept under refrigerated conditions until the time of delivery to the analytical laboratory. A formal chain of custody was maintained for all samples submitted to the laboratory.

4.11.2 Description of equipment cleaning procedures followed during all sampling

Dedicated, disposable nitrile gloves were used for each sampling event to reduce the potential for cross-contamination.

4.11.3 Description of how the field quality control measures referred to in subsection 3 (3) were carried out

Field duplicate samples were collected at the time of sampling. All field screening devices (i.e. RKI Eagle 2) were calibrated prior to use by the supplier. Calibration checks were completed, and re-calibrations were conducted as required.

4.11.4 Description of, and rational for, any deviations from the procedures set out in the quality assurance and quality control program set out in the SAP

There were no deviations from the QA/QC program described in the SAP.

5.0 Review and Evaluation

5.1 Geology

A summary of the subsurface conditions is presented below. Additional details may be found in the test pit logs in Appendix C.

Gravelly sand fill material was identified in all test pits with the exception of TP20-2, in which topsoil was encountered at the ground surface. Inclusions of asphalt and rootlets were observed in test pits TP20-3 and TP20-4. A layer of disturbed native (clayey silt/silty clay) was encountered beneath the fill material and was generally underlain by clayey silt and sandy silt till. Groundwater was not encountered in any of the test pits completed.

5.2 Ground Water Elevations and Flow Direction

5.2.1 Rationale for Monitoring Well Location and Well Screen Intervals

Not applicable, monitoring wells were not completed as part of this investigation.

5.2.2 Results of Interface Probe Measurements

Not applicable, monitoring wells were not completed as part of this investigation.

5.2.3 Product Thickness and Free Flowing Product

Not applicable, monitoring wells were not completed as part of this investigation.

5.2.4 Groundwater Elevation

Not applicable, monitoring wells were not completed as part of this investigation.

5.2.5 Groundwater Flow Direction

Groundwater was not considered to be a media of potential concern, as such an assessment of groundwater elevation was not completed. Based on the surficial topography the groundwater flow direction is anticipated to be southeasterly.

5.2.6 Assessment of Potential for Temporal Variability in Groundwater Flow Direction

Groundwater monitoring was not completed as part of this assessment. It is possible that temporal variations in groundwater elevations may occur on the Phase Two Property in response to seasonal weather patterns.

Temporal variability in groundwater level has the ability to influence the groundwater flow direction. The degree of variation in groundwater levels on the Phase Two Property can only be confirmed with long-term monitoring.

5.2.7 Evaluation of Potential Interaction Between Buried Utilities and the Water Table

The Phase Two Property was reportedly not previously connected to any municipal services, as per the Phase One ESA (DS, 2020). The public and private utility locates conducted during the course of this Phase Two ESA did not indicate that any below ground utilities were present. On this basis, the potential for interaction between buried utilities and the water table is considered to be low.

5.3 Ground Water Hydraulic Gradients

5.3.1 Horizontal Hydraulic Gradient

Not applicable, groundwater was not considered to be a media of potential concern.

5.3.2 Vertical Hydraulic Gradient

Not applicable, groundwater was not considered to be a media of potential concern.

5.4 Fine-Medium Soil Texture

Not Applicable – more than one-third of the soils encountered on the Phase Two Property are considered to be coarse textured. For the purposes of evaluating the SCS, all soils on the Phase Two Property were considered to be coarse textured.

5.5 Soil Field Screening

Soil vapour headspace readings were collected immediately following soil sampling, the results of which are presented on the borehole logs (Appendix C). The soil vapour headspace readings were collected using an RKI Eagle 2 in methane elimination mode. The PID readings ranged between 0 and 1 ppm. The CGD readings ranged between 0 and 10 ppm.

The soil samples were also screened for visual and olfactory indicators of impacts (e.g. staining, odours). The fill material was observed in test pits TP20-3 and TP20-4 was noted to contain inclusions of asphalt.

5.6 Soil Quality

The results of the chemical analyses conducted are presented in Tables 3 through 7 (enclosed). The laboratory certificates of analysis have been provided under Appendix D.

5.6.1 Metals and ORPs

A total of seven (7) topsoil samples, including one (1) QA/QC duplicate were collected from within APEC-1 and submitted for analysis of metals and ORPs. The results indicated that all of the topsoil samples (TS20-1 through TS20-6) met the MECP Table 1 Standards.

A total of seven (7) soil samples, including one (1) QA/QC duplicate were collected from within APEC-2 on May 27, 2020 and submitted for analysis of metals and ORPs. The results of the chemical analyses identified the following exceedances of the MECP Table 1 SCS:

Table 5-1: Summary of Metals and ORPs Exceedances in Soil

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 1 SCS	Reported Value
TP20-1 S1	0-0.8	EC	mS/cm	0.57	0.7
TP20-5 S1	0-0.4	Lead	µg/g	120	180

Notes

= concentration exceeds applicable site condition standard

Six (6) soil samples, including one (1) QA/QC duplicate were collected within a 1.5 metre radius of sample TP20-1 S1 and submitted for analysis of EC. All of these samples (TP20-1 C1 to C5, and Dup-5) met the Table 1 SCS. Further, the average EC value of the seven samples collected within a 1.5 metre radius of TP20-1 (including the original sample) is 0.27.

Per section 48.2 of O.Reg. 153/04, which states, “If two or more samples of soil or sediment are taken from sampling points at the same sampling location that are at the same depth in, on or under the property, the property meets a standard mentioned in subsection (1) if the average of the sampling results meets the standard and in no other circumstances (O.Reg. 153/04 s.48(2)).

Sample TP20-5 S2 (1.5-1.8 mbgs) was submitted for analysis of metals for the purposes of assessing the vertical extent of the lead impacts in test pit TP20-5. Sample TP20-5 S2 met the Table 1 SCS, indicating that the vertical extent of the lead impacts in this location is less than 1.5 mbgs.

A total of fourteen (14) soil samples, including one (1) QA/QC duplicate) were collected on May 29, 2020 and submitted for analysis of metals to further characterize the environmental quality of the fill material. Three (3) additional samples were submitted for analysis of

metals and ORPs. All of the samples from the May 29, 2020 sampling event met the MECP Table 1 SCS.

5.6.2 Petroleum Hydrocarbons

Six (6) soil samples were collected on May 27, 2020 at two discrete depths from TP20-3, TP20-4 and TP20-5 and submitted for analysis of PHCs and BTEX. Eight (8) soil samples, including two (2) QA/QC duplicate samples were collected on May 29, 2020 and submitted for analysis of PHCs in the F2-F4 ranges. Nine (9) additional samples were submitted for analysis of PHCs and BTEX. These additional samples were collected to further characterize the environmental quality of the fill material.

Elevated concentrations of PHCs in excess of the MECP Table 1 SCS were identified in thirteen (13) of the twenty-three (23) samples analysed.

The results of the chemical analyses indicated the following exceedances of the Table 1 SCS:

Table 5-2: Summary of PHCs in Soil

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 1 SCS	Reported Value
TP20-3 S1	0-0.5	PHC F2	µg/g	10	22
		PHC F3	µg/g	240	1960
		PHC F4	µg/g	120	5830
TP20-4 S1	0-0.6	PHC F2	µg/g	10	11
		PHC F3	µg/g	240	1480
		PHC F4	µg/g	120	4500
TP20-5 S1	0-0.4	PHC F3	µg/g	240	987
		PHC F4	µg/g	120	2340
TP20-10 S1	0-0.6	PHC F2	µg/g	10	35
		PHC F3	µg/g	240	2320
		PHC F4	µg/g	120	6730
TP20-12 S1	0-0.6	PHC F2	µg/g	10	16
		PHC F3	µg/g	240	1140
		PHC F4	µg/g	120	3560
TP20-13 S1	0-0.6	PHC F3	µg/g	240	1450
		PHC F4	µg/g	120	4240
TP20-15 S1	0-0.6	PHC F3	µg/g	240	1350
		PHC F4	µg/g	120	3140
TP20-17 S1	0-0.6	PHC F2	µg/g	10	11
		PHC F3	µg/g	240	1290
		PHC F4	µg/g	120	2830
TP20-18 S1	0-0.6	PHC F4	µg/g	120	199
TP20-19 S1	0-0.6	PHC F2	µg/g	10	14
		PHC F3	µg/g	240	1630
		PHC F4	µg/g	120	5110
TP20-20 S1	0-0.6	PHC F2	µg/g	10	13
		PHC F3	µg/g	240	1110

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 1 SCS	Reported Value
		PHC F4	µg/g	120	3510
TP20-21 S1	0-0.6	PHC F2	µg/g	10	12
		PHC F3	µg/g	240	832
		PHC F4	µg/g	120	2680
TP20-22 S1	0-0.6	PHC F2	µg/g	10	14
		PHC F3	µg/g	240	1630
		PHC F4	µg/g	120	3880

Notes

= concentration exceeds applicable site condition standard

Samples TP20-3 S2 (1.5-1.8 mbgs), TP20-4 S2 (1.5-1.8 mbgs) and TP20-5 S2 (1.5-1.8 mbgs) were analysed for PHCs in the F2-F4 ranges, the results of which identified non-detectable concentrations of PHCs in the F2-F4 ranges, indicating that the vertical extent of the PHC impacts in these sample locations is less than 1.5 mbgs.

5.6.3 Volatile Organic Compounds

Three (3) soil samples were collected from within APEC-2 on May 27, 2020 and submitted for analysis of VOCs. The chemical analyses identified non-detectable concentrations of VOCs in all of the samples analysed.

5.6.4 Polycyclic Aromatic Hydrocarbons

Six (6) soil samples were collected from within APEC-2 on May 27, 2020 and submitted for analysis of PAHs.

Sixteen (16) soil samples, including one (1) QA/QC duplicate sample were collected on May 29, 2020 and submitted for analysis of PAHs to further characterize the environmental quality of the fill material.

Elevated concentrations of various PAHs in excess of the MECP Table 1 SCS were identified in seven (7) of the twenty-two (22) samples analysed. Elevated detection limits (in excess of the respective MECP Table 1 SCS) for various PAHs were identified in twelve (12) of the twenty-two (22) samples analysed.

A summary of the exceedances of the MECP Table 1 SCS and the detection limit exceedances is provided in the following table.

Table 5-3: Summary of PAHs in Soil

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 1 SCS	Reported Value
TP20-3 S1	0-0.5	Acenaphthene	µg/g	0.072	<u>< 0.1</u>
		Acenaphthylene	µg/g	0.093	0.64
		Anthracene	µg/g	0.16	0.44
		Benz(a)anthracene	µg/g	0.36	1.74
		Benzo(a)pyrene	µg/g	0.3	1.89
		Benzo(b+j)fluoranthene	µg/g	0.47	2.78
		Benzo(g,h,i)perylene	µg/g	0.68	0.76
		Benzo(k)fluoranthene	µg/g	0.48	0.78
		Dibenz(a,h)anthracene	µg/g	0.1	0.23
		Fluoranthene	µg/g	0.56	4.08
		Fluorene	µg/g	0.12	0.17
		Indeno(1,2,3-cd)pyrene	µg/g	0.23	0.74
		Naphthalene	µg/g	0.09	<u>< 0.1</u>
		Phenanthrene	µg/g	0.69	1.16
		Pyrene	µg/g	1	3.84
TP20-4 S1	0-0.6	Acenaphthene	µg/g	0.072	<u>< 0.1</u>
		Acenaphthylene	µg/g	0.093	<u>< 0.1</u>
		Dibenz(a,h)anthracene	µg/g	0.1	0.16
		Naphthalene	µg/g	0.09	<u>< 0.1</u>
TP20-5 S1	0-0.4	Acenaphthene	µg/g	0.072	<u>< 0.1</u>
		Acenaphthylene	µg/g	0.093	<u>< 0.1</u>
		Naphthalene	µg/g	0.09	<u>< 0.1</u>
TP20-10 S1	0-0.6	Acenaphthene	µg/g	0.072	<u>< 0.1</u>
		Acenaphthylene	µg/g	0.093	0.35

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 1 SCS	Reported Value
		Anthracene	µg/g	0.16	0.25
		Benz(a)anthracene	µg/g	0.36	1.62
		Benzo(a)pyrene	µg/g	0.3	1.76
		Benzo(b+j)fluoranthene	µg/g	0.47	2.52
		Benzo(g,h,i)perylene	µg/g	0.68	1.19
		Benzo(k)fluoranthene	µg/g	0.48	0.85
		Dibenz(a,h)anthracene	µg/g	0.1	0.33
		Fluoranthene	µg/g	0.56	2.83
		Indeno(1,2,3-cd)pyrene	µg/g	0.23	0.87
		Naphthalene	µg/g	0.09	<u>< 0.1</u>
		Phenanthrene	µg/g	0.69	0.71
		Pyrene	µg/g	1	2.64
TP20-12 S1	0-0.6	Acenaphthene	µg/g	0.072	<u>< 0.1</u>
		Acenaphthylene	µg/g	0.093	<u>< 0.1</u>
		Dibenz(a,h)anthracene	µg/g	0.1	<u>< 0.2</u>
		Naphthalene	µg/g	0.09	<u>< 0.1</u>
TP20-13 S1	0-0.6	Acenaphthene	µg/g	0.072	<u>< 0.1</u>
		Acenaphthylene	µg/g	0.093	<u>< 0.1</u>
		Dibenz(a,h)anthracene	µg/g	0.1	<u>< 0.2</u>
		Naphthalene	µg/g	0.09	<u>< 0.1</u>
TP20-15 S1	0-0.6	Acenaphthene	µg/g	0.072	<u>< 0.1</u>
		Acenaphthylene	µg/g	0.093	<u>< 0.1</u>
		Dibenz(a,h)anthracene	µg/g	0.1	0.14
		Naphthalene	µg/g	0.09	<u>< 0.1</u>
TP20-17 S1	0-0.6	Acenaphthene	µg/g	0.072	<u>< 0.1</u>
		Acenaphthylene	µg/g	0.093	<u>< 0.1</u>
		Naphthalene	µg/g	0.09	<u>< 0.1</u>

Sample ID	Sample Depth (mbgs)	Parameter	Units	Table 1 SCS	Reported Value
TP20-19 S1	0-0.6	Acenaphthene	µg/g	0.072	<u>< 0.1</u>
		Acenaphthylene	µg/g	0.093	<u>< 0.1</u>
		Dibenz(a,h)anthracene	µg/g	0.1	0.13
		Naphthalene	µg/g	0.09	<u>< 0.1</u>
TP20-20 S1	0-0.6	Acenaphthene	µg/g	0.072	<u>< 0.1</u>
		Acenaphthylene	µg/g	0.093	<u>< 0.1</u>
		Dibenz(a,h)anthracene	µg/g	0.1	0.11
		Naphthalene	µg/g	0.09	<u>< 0.1</u>
TP20-21 S1	0-0.6	Acenaphthene	µg/g	0.072	<u>< 0.1</u>
		Acenaphthylene	µg/g	0.093	<u>< 0.1</u>
		Naphthalene	µg/g	0.09	<u>< 0.1</u>
TP20-22 S1	0-0.6	Acenaphthene	µg/g	0.072	<u>< 0.1</u>
		Acenaphthylene	µg/g	0.093	<u>< 0.1</u>
		Dibenz(a,h)anthracene	µg/g	0.1	0.13
		Indeno(1,2,3-cd)pyrene	µg/g	0.23	0.25
		Naphthalene	µg/g	0.09	<u>< 0.1</u>

Notes

= concentration exceeds applicable site condition standard

= Laboratory detection limit higher than applicable site condition standard

Samples TP20-3 S2 (1.5-1.8 mbgs), TP20-4 S2 (1.5-1.8 mbgs) and TP20-5 S2 (1.5-1.8 mbgs) were analysed for PAHs, the results of which identified non-detectable concentrations of PAHs, indicating that the vertical extent of the PAH impacts in these sample locations is less than 1.5 mbgs.

5.6.1 OC Pesticides

A total of seven (7) topsoil samples, including one (1) QA/QC duplicate were collected from within APEC-1 and submitted for analysis of OC Pesticides. The results indicated that non-detectable concentrations of OC Pesticides were present in all of the samples analysed.

5.6.2 Commentary on Soil Quality

The results of the topsoil sampling completed within APEC-1 indicated that the soil quality met the applicable MECP Table 1 SCS for the relevant contaminants of potential concern.

Soil impacts were identified in test pits TP20-3, TP20-4, TP20-5, TP20-10, TP20-12, TP20-13, TP20-15, TP20-17, TP20-18, TP20-19, TP20-20, TP20-21 and TP20-22. The vertical extent of the impacts was found to be less than 1.5 mbgs in test pits TP20-3, TP20-4 and TP20-5.

The soil impacts identified are attributed to the historical placement of fill material in the vicinity of the former barn for grading purposes. The soil impacts appear to be localized within the vicinity of APEC-2

5.7 Ground Water Quality

Not applicable, groundwater sampling was not completed as part of this assessment.

5.8 Sediment Quality

Not applicable, sediment was not identified as a media of potential concern.

5.9 Quality Assurance and Quality Control Results

Collection of soil and groundwater samples was conducted in general accordance with the MECP *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*. As described in Section 4.12, dedicated equipment was used where possible, and all non-dedicated equipment was decontaminated before and between sampling events. All soil samples were transferred directly into laboratory-supplied containers. The laboratory containers were prepared by the laboratory with suitable preservative, as required. All samples were stored and transported under refrigerated conditions. Chain of custody protocols were maintained from the time of sampling to delivery to the analytical laboratory.

The field QA/QC program involved the collection of field duplicate soil samples. In addition to the controls listed above, the analytical laboratory employed method blanks, internal laboratory duplicates, surrogate spike samples, matrix spike samples, and standard reference materials.

A summary of the field duplicate samples analyzed and an interpretation of the efficacy of the QA/QC program is provided in the table below.

Table 5-4: Summary of QA/QC Results

Sample ID	QA/QC duplicate	Medium	Parameter Analyzed	QA/QC Result
TP20-1 S1	Dup-1	Soil	Metals	All results were within the analytical protocol criteria for RPD
TP20-7 S1	Dup-2	Soil	Metals	All results were within the analytical protocol criteria for RPD, except for the parameters listed below.
TS20-6	Dup-S1	Topsoil	Metals and ORPs, OC Pesticides	All results were within the analytical protocol criteria for RPD
TP20-8 S1	Dup-3	Soil	Metals, PAHs, PHC F2-F4	All results were within the analytical protocol criteria for RPD
TP20-9 S1	Dup-4	Soil	Metals, PAHs, PHC F2-F4	All results were within the analytical protocol criteria for RPD
TP20-1 C5	Dup5	Soil	EC	All results were within the analytical protocol criteria for RPD

The following exceptions in the RPD protocols were identified:

- ◆ The following values for TP20-7 S1 (Dup-2) exceeded the recommended RPD limit:
 - RPD value of 30% for barium exceeded criteria of 20%
 - RPD value of 29% for chromium exceeded criteria of 20%
 - RPD value of 34% for cobalt exceeded criteria of 20%
 - RPD value of 40% for copper exceeded criteria of 20%
 - RPD value of 29% for nickel exceeded criteria of 20%

These variances in the analytical result between the parent and duplicate sample are attributed to the heterogeneity of the fill material analyzed.

Based on the interpretation of the laboratory results and the QA/QC program, it is the opinion of the QP that the laboratory analytical data can be relied upon.

All samples were handled in accordance with the MECP Analytical Protocol regarding sample holding time, preservation methods, storage requirements, and type of container.

SGS routinely conducts internal QA/QC analyses in order to satisfy regulatory QA/QC requirements. The results of the SGS QA/QC analyses for the submitted soil samples are summarized in the laboratory Certificates of Analyses provided in Appendix D.

With respect to subsection 47(3) of O. Reg 153/04 (as amended), all certificates of analysis or analytical reports pursuant to clause 47(2) (b) of the regulation comply with subsection 47(3). A certificate of analysis has been received for each sample submitted for analysis and have been provided (in full) in Appendix D.

A review of the QA/QC sample results indicated that no issues were identified with respect to both the field collection methodology and the laboratory reporting. It is the opinion of the QP that the analytical data obtained are representative of the soil and groundwater conditions at the Phase Two Property for the purpose of assessing whether the soil and groundwater at the Phase Property meets the applicable MECP SCS.

6.0 Conclusions

This Phase Two ESA involved that advancement of twenty-two (22) test pits to a maximum explored depth of 1.8 mbgs. Representative soil samples were collected within APECs 1 and 2 and submitted for analysis of metals and ORPS, PHCs, VOCs, PAHs and OC Pesticides.

Based on the results of the information gathered through the course of the investigation, DS presents the following conclusions:

- ◆ The soil quality within APEC-1 was confirmed to meet the applicable MECP Table 1 SCS for the relevant contaminants of potential concern.
- ◆ Soil impacts were identified in test pits TP20-3, TP20-4, TP20-5, TP20-10, TP20-12, TP20-13, TP20-15, TP20-17, TP20-18, TP20-19, TP20-20, TP20-21 and TP20-22. The vertical extent of the impacts was found to be less than 1.5 mbgs in test pits TP20-3, TP20-4 and TP20-5.
- ◆ The soil impacts identified are attributed to the historical placement of fill material in the vicinity of the former barn for grading purposes. The soil impacts appear to be localized within the vicinity of APEC-2.
- ◆ It is anticipated that the soil impacts identified can be remediated by excavation and off-site disposal. Confirmatory sampling in accordance with O.Reg. 153/04 (as amended) is recommended upon completion of the any future cleanup activity.

6.1 Qualifications of the Assessors

Sarth Sheth, M.Sc., EIT

Mr. Sheth is engineer in training with DS Consultants Ltd. Sarth holds a Master Degree in Water Security from the University of Saskatchewan and has several years of experience working in the environmental industry. Sarth has experience in conducting Phase One and Phase Two Environmental Site Assessments, soil and groundwater remediation, and has supported several risk assessment projects.

Ms. Kirstin Olsen, M.Sc.

Ms. Olsen is a Project Manager in the Environmental Services Department at DS Consultants Limited. Ms. Olsen has a bachelor's degree in Animal, Plant and Environmental Science, as well as a Master of Science Degree in Environmental Science, Ecology and Conservation from the University of the Witwatersrand (Johannesburg, South Africa). Ms. Olsen has personally completed over three hundred detailed environmental assessments across a wide array of scientific disciplines including: Phase One & Two Environmental Site Assessments, Remedial Excavation & Injection Oversight, Hydrogeological Investigations, EASR Registration/PTTW Application, Aquatic Ecological Delineation, Assessment & Planning, Toxicological, Soil & Water Impact and Risk Assessment, as well as Environmental Construction Monitoring & Performance Auditing.

Mr. Patrick (Rick) Fioravanti, B.Sc., P.Geo., QP_{ESA}

Mr. Fioravanti is the Manager of Environmental Services with DS Consultants Limited. Patrick holds an Honours Bachelor of Science with distinction in Toxicology from the University of Guelph and is a practicing member of the Association of Professional Geoscientists of Ontario (APGO). Patrick has over nine years of environmental consulting experience and has conducted and/or managed over 200 projects in his professional experience. Patrick has extensive experience conducting Phase One and Phase Two Environmental Site Assessments in support of brownfields redevelopment in urban settings, and been involved in numerous remediation projects, supported many risk assessments, and successfully filed Records of Site Condition with the Ministry of Environment and Climate Change. He has conducted work across southern and eastern Ontario, and Quebec in his professional experience. Patrick is considered a Qualified Person to conduct Environmental Site Assessments as defined by Ontario Regulation 153/04 (as amended).

6.2 Signatures

This Phase Two ESA was conducted under the supervision of Patrick (Rick) Fioravanti, B.Sc., P.Geo., QP_{ESA} in accordance with the requirements of O.Reg. 153/04 (as amended). The findings and conclusions presented have been determined based on the information obtained at the time of the investigation, and on an assessment of the conditions of the Site at this time.

We trust this report meets with your requirements. Should you have any questions regarding the information presented, please do not hesitate to contact our office.

Yours truly,

DS Consultants Ltd



Kirstin Olsen, MSc.
Project Manager



Patrick Fioravanti, B.Sc., P.Geo., QP_{ESA}
Manager - Environmental

6.3 Limitations

This report was prepared for the sole use of Mr. Glen Hansen and is intended to provide an assessment of the environmental condition on the property located at 8079 Eighth Line, Halton Hills, Ontario. The information presented in this report is based on information collected during the completion of the Phase Two Environmental Site Assessment by DS Consultants Ltd. The material in this report reflects DS' judgment in light of the information available at the time of report preparation. This report may not be relied upon by any other person or entity without the written authorization of DS Consultants Ltd. The scope of services performed in the execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or reuse of this documents or findings, conclusions and recommendations represented herein, is at the sole risk of said users.

The conclusions drawn from the Phase Two ESA were based on information at selected observation and sampling locations. Conditions between and beyond these locations may become apparent during future investigations or on-site work, which could not be detected or anticipated at the time of this investigation. The sampling locations were chosen based upon a cursory historical search, visual observations and limited information provided by

persons knowledgeable about past and current activities on this site during the Phase Two ESA activities. As such, DS Consultants Ltd. cannot be held responsible for environmental conditions at the site that was not apparent from the available information.

7.0 References

- ◆ Armstrong, D.K. and Dodge, J.E.P. *Paleozoic Geology Map of Southern Ontario*. Ontario Geological Survey, Miscellaneous Release--Data 219.
- ◆ Chapman, L.J. and Putnam, D.F. 2007. *The Physiography of Southern Ontario*. Ontario Geological Survey, Miscellaneous Release--Data 228.
- ◆ Freeze, R. Allen and Cherry, John A., 1979. *Ground water*. Page 29.
- ◆ Ontario Ministry of the Environment, December 1996. *Guidance on Sampling and Analytical Methods for Use at Contaminated Sites in Ontario*.
- ◆ Ontario Ministry of Environment, 15 April 2011. *Soil, Ground Water and Sediment Standards for use under part XV.1 of the Environmental Protection Act*.
- ◆ Ontario Ministry of the Environment, June 2011. *Guide for Completing Phase Two Environmental Site Assessments under Ontario regulation 153/04*.
- ◆ Ontario Ministry of the Environment, July 2011. *Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act*.
- ◆ The Ontario Geological Survey. 2003. *Surficial Geology of Southern Ontario*.



Tables



Table 1: Summary of Soil Samples Submitted for Chemical Analysis

Test Pit ID	Sample No.	Sample Depth (mbgs)	Soil Description	Parameter Analyzed	APEC Investigated
TS20-1	TS20-1	0-0.3	Topsoil	M&I, OC Pesticides	APEC-1
TS20-2	TS20-2	0-0.3	Topsoil	M&I, OC Pesticides	APEC-1
TS20-3	TS20-3	0-0.3	Topsoil	M&I, OC Pesticides	APEC-1
TS20-4	TS20-4	0-0.3	Topsoil	M&I, OC Pesticides	APEC-1
TS20-5	TS20-5	0-0.3	Topsoil	M&I, OC Pesticides	APEC-1
TS20-6	-	0-0.3	Topsoil	M&I, OC Pesticides	APEC-1
	Dup-S1			M&I, OC Pesticides	QA/QC
TP20-1	S1	0-0.8	Fill	M&I	APEC-2
	Dup-1			Metals	QA/QC
	C1	0-0.6		EC	APEC-2
	C2	0-0.6		EC	APEC-2
	C3	0-0.6		EC	APEC-2
	C4	0-0.6		EC	APEC-2
	C5	0-0.6		EC	APEC-2
	Dup-5	0-0.6		EC	QA/QC
TP20-3	S1	0-0.5	Fill	M&I, PHC, VOC, PAH	APEC-2
	S2	1.5-1.8	Clayey Silt Till	PHC F2-F4, PAHs	APEC-2
TP20-4	S1	0-0.6	Fill	M&I, PHC, VOC, PAH	APEC-2
	S2	1.5-1.8	Clayey Silt Till	PHC F2-F4, PAHs	APEC-2
TP20-5	S1	0-0.4	Fill	M&I, PHC, VOC, PAH	APEC-2
	S2	1.5-1.8	Clayey Silt Till	Metals, PHC F2-F4, PAHs	APEC-2
TP20-7	S1	0.15-0.4	Fill	M&I	APEC-2
	Dup-2			Metals	QA/QC
TP20-8	S1	0-0.6	Fill	Metals, PHC F2-F4, PAHs	APEC-2
	Dup-3	0-0.6	Fill	Metals, PHC F2-F4, PAHs	QA/QC
TP20-9	S1	0-0.6	Fill	Metals, PHC F2-F4, PAHs	APEC-2
	Dup-4	0-0.6	Fill	Metals, PHC F2-F4	QA/QC
TP20-10	S1	0-0.6	Fill	M&I, PHC F2-F4, PAHs	APEC-2
TP20-11	S1	0-0.6	Fill	Metals, PHC F2-F4, PAHs	APEC-2
TP20-12	S1	0-0.6	Fill	Metals, PHCs, BTEX, PAHs	APEC-2
TP20-13	S1	0-0.6	Fill	Metals, PHCs, BTEX, PAHs	APEC-2
TP20-14	S1	0-0.6	Fill	Metals, PHC F2-F4, PAHs	APEC-2
TP20-15	S1	0-0.6	Fill	Metals, PHCs, BTEX, PAHs	APEC-2
TP20-16	S1	0-0.6	Fill	Metals, PHCs, BTEX, PAHs	APEC-2
TP20-17	S1	0-0.6	Fill	Metals, PHCs, BTEX, PAHs	APEC-2
TP20-18	S1	0-0.6	Fill	Metals, PHC F2-F4, PAHs	APEC-2



Table 1: Summary of Soil Samples Submitted for Chemical Analysis

Test Pit ID	Sample No.	Sample Depth (mbgs)	Soil Description	Parameter Analyzed	APEC Investigated
TP20-19	S1	0-0.6	Fill	M&I, PHCs, BTEX, PAHs	APEC-2
TP20-20	S1	0-0.6	Fill	M&I, PHCs, BTEX, PAHs	APEC-2
TP20-21	S1	0-0.6	Fill	Metals, PHCs, BTEX, PAHs	APEC-2
TP20-22	S1	0-0.6	Fill	Metals, PHCs, BTEX, PAHs	APEC-2

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 2: Summary of APECs Investigated

APEC	Description	PCOCs	Media	Samples Within APEC	Samples Analysed	Parameter Analyzed
APEC-1	Historical presence of Orchard	Metals, As, Sb, Se, CN-, OC Pesticides	Soil	TS20-1	TS20-1	M&I, OC Pesticides
				TS20-2	TS20-2	M&I, OC Pesticides
				TS20-3	TS20-3	M&I, OC Pesticides
				TS20-4	TS20-4	M&I, OC Pesticides
				TS20-5	TS20-5	M&I, OC Pesticides
				TS20-6	TS20-6	M&I, OC Pesticides
				Dup-S1 (TS20-6)	Dup-S1 (TS20-6)	M&I, OC Pesticides
APEC-2	Fill material of unknown quality	PHCs, VOCs, Metals, As, Sb, Se, B-HWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil	TP20-1	S1	M&I
					Dup-1	Metals
				TP20-3	S1	M&I, PHCs, VOCs, PAHs
					S2	PHC F2-F4, PAHs
				TP20-4	S1	M&I, PHCs, VOCs, PAHs
					S2	PHC F2-F4, PAHs
				TP20-5	S1	M&I, PHCs, VOCs, PAHs
					S2	Metals, PHC F2-F4, PAHs
				TP20-7	S1	M&I
					Dup-2	Metals
				TP20-8	S1	Metals, PHC F2-F4, PAHs
					Dup-3	Metals, PHC F2-F4, PAHs
				TP20-9	S1	Metals, PHC F2-F4, PAHs
					Dup-4	Metals, PHC F2-F4
				TP20-10	S1	M&I, PHC F2-F4, PAHs
				TP20-11	S1	Metals, PHC F2-F4, PAHs



Table 2: Summary of APECs Investigated

APEC	Description	PCOCs	Media	Samples Within APEC	Samples Analysed	Parameter Analyzed
APEC-2	Fill material of unknown quality	PHCs, VOCs, Metals, As, Sb, Se, B-HWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil	TP20-12	S1	Metals, PHCs, BTEX, PAHs
				TP20-13	S1	Metals, PHCs, BTEX, PAHs
				TP20-14	S1	Metals, PHC F2-F4, PAHs
				TP20-15	S1	Metals, PHCs, BTEX, PAHs
				TP20-16	S1	Metals, PHCs, BTEX, PAHs
				TP20-17	S1	Metals, PHCs, BTEX, PAHs
				TP20-18	S1	Metals, PHC F2-F4, PAHs
				TP20-19	S1	M&I, PHCs, BTEX, PAHs
				TP20-20	S1	M&I, PHCs, BTEX, PAHs
				TP20-21	S1	Metals, PHCs, BTEX, PAHs
				TP20-22	S1	Metals, PHCs, BTEX, PAHs

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 3: Summary of Metals and Inorganics in Soil

Parameter	MECP Table 1 RPIICC	TS20-1	TS20-2	TS20-3	TS20-4	TS20-5	TS20-6
Date of Collection		15-May-20	15-May-20	15-May-20	15-May-20	15-May-20	15-May-20
Date Reported		27-May-20	27-May-20	27-May-20	27-May-20	27-May-20	27-May-20
Sampling Depth (mbgs)		0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	0-0.3
Analytical Report Reference No.		CA14639-MAY20-8	CA14639-MAY20-9	CA14639-MAY20-10	CA14639-MAY20-11	CA14639-MAY20-12	CA14639-MAY20-13
Antimony	1.3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Arsenic	18	3.7	3.9	4	4.8	4.5	4.4
Barium	220	69	62	71	71	92	83
Beryllium	2.5	0.6	0.58	0.51	0.66	0.77	0.75
Boron (total)	36	4	3	4	5	5	5
Boron (Hot Water Soluble)	NV	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cadmium	1.2	0.22	0.22	0.19	0.21	0.28	0.17
Chromium Total	70	21	20	17	20	25	26
Chromium VI	0.66	0.4	0.4	0.3	0.3	0.3	< 0.2
Cobalt	21	11	10	8	10	14	13
Copper	92	17	22	21	31	21	24
Cyanide (CN ⁻)	0.051	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Electrical Conductivity (mS/cm)	0.57	0.1	0.09	0.17	0.25	0.08	0.1
Lead	120	14	13	14	15	20	18
Mercury	0.27	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum	2	0.4	0.4	0.4	0.4	0.6	0.5
Nickel	82	19	20	17	21	23	25
Selenium	1.5	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Silver	0.5	0.08	< 0.05	< 0.05	< 0.05	0.05	< 0.05
Sodium Adsorption Ratio	2.4	< 0.2	< 0.2	< 0.2	0.4	< 0.2	< 0.2
Thallium	1	0.15	0.14	0.11	0.14	0.17	0.18
Uranium	2.5	0.56	0.54	0.63	0.65	0.65	0.64
Vanadium	86	31	28	24	29	37	37
Zinc	290	59	55	61	63	75	77
pH	5 to 9	6.04	5.91	6.1	7.23	5.88	6.42

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 3: Summary of Metals and Inorganics in Soil

Parameter	MECP Table 1 RPIICC	DUP-S1 (TS20-6)	TP20-1 S1	TP20-1 C1	TP20-1 C2	TP20-1 C3	TP20-1 C4
Date of Collection		15-May-20	27-May-20	29-May-20	29-May-20	29-May-20	29-May-20
Date Reported		27-May-20	29-May-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20
Sampling Depth (mbgs)		0-0.3	0-0.8	0-0.6	0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		CA14639-MAY20-14	CA14950-MAY20-8	CA15958-MAY20-25	CA15958-MAY20-26	CA15958-MAY20-27	CA15958-MAY20-28
Antimony	1.3	< 0.8	< 0.8	-	-	-	-
Arsenic	18	4.3	4	-	-	-	-
Barium	220	83	130	-	-	-	-
Beryllium	2.5	0.73	0.87	-	-	-	-
Boron (total)	36	5	12	-	-	-	-
Boron (Hot Water Soluble)	NV	< 0.5	< 0.5	-	-	-	-
Cadmium	1.2	0.21	0.55	-	-	-	-
Chromium Total	70	25	25	-	-	-	-
Chromium VI	0.66	0.3	0.4	-	-	-	-
Cobalt	21	13	12	-	-	-	-
Copper	92	23	35	-	-	-	-
Cyanide (CN-)	0.051	< 0.05	< 0.05	-	-	-	-
Electrical Conductivity (mS/cm)	0.57	0.1	0.7	0.18	0.17	0.18	0.32
Lead	120	18	42	-	-	-	-
Mercury	0.27	< 0.05	< 0.05	-	-	-	-
Molybdenum	2	0.4	0.6	-	-	-	-
Nickel	82	25	24	-	-	-	-
Selenium	1.5	< 0.7	< 0.7	-	-	-	-
Silver	0.5	< 0.05	0.07	-	-	-	-
Sodium Adsorption Ratio	2.4	< 0.2	1.1	-	-	-	-
Thallium	1	0.18	0.15	-	-	-	-
Uranium	2.5	0.6	0.56	-	-	-	-
Vanadium	86	36	31	-	-	-	-
Zinc	290	74	97	-	-	-	-
pH	5 to 9	6.42	7.8	-	-	-	-

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 3: Summary of Metals and Inorganics in Soil

Parameter	MECP Table 1 RPIICC	TP20-1 C5	DUP-5 (TP20-1 C5)	TP20-3 S1	TP20-4 S1	TP20-5 S1	TP20-5 S2
Date of Collection		29-May-20	29-May-20	27-May-20	27-May-20	27-May-20	27-May-20
Date Reported		02-Jun-20	02-Jun-20	29-May-20	29-May-20	29-May-20	01-Jun-20
Sampling Depth (mbgs)		0-0.6	0-0.6	0-0.5	0-0.6	0-0.4	1.5-1.8
Analytical Report Reference No.		CA15958-MAY20 29	CA15958-MAY20 30	CA14950-MAY20- 10	CA14950-MAY20- 11	CA14950-MAY20- 12	CA15913-May20- 10
Antimony	1.3	-	-	< 0.8	< 0.8	< 0.8	-
Arsenic	18	-	-	3.3	3	3.5	-
Barium	220	-	-	55	27	68	83
Beryllium	2.5	-	-	0.32	0.11	0.3	0.65
Boron (total)	36	-	-	8	5	8	6
Boron (Hot Water Soluble)	NV	-	-	< 0.5	< 0.5	< 0.5	-
Cadmium	1.2	-	-	0.14	0.28	0.38	0.09
Chromium Total	70	-	-	13	10	13	23
Chromium VI	0.66	-	-	0.3	< 0.2	< 0.2	-
Cobalt	21	-	-	6.8	5.5	6.9	13
Copper	92	-	-	25	18	26	29
Cyanide (CN-)	0.051	-	-	< 0.05	< 0.05	< 0.05	-
Electrical Conductivity (mS/cm)	0.57	0.23	0.25	0.16	0.1	0.22	-
Lead	120	-	-	12	17	180	9
Mercury	0.27	-	-	< 0.05	< 0.05	< 0.05	-
Molybdenum	2	-	-	0.6	0.8	0.8	0.2
Nickel	82	-	-	19	13	15	28
Selenium	1.5	-	-	< 0.7	< 0.7	< 0.7	-
Silver	0.5	-	-	< 0.05	< 0.05	0.06	<0.05
Sodium Adsorption Ratio	2.4	-	-	< 0.2	< 0.2	< 0.2	-
Thallium	1	-	-	0.09	0.07	0.1	0.16
Uranium	2.5	-	-	0.37	0.33	0.59	0.46
Vanadium	86	-	-	31	23	21	29
Zinc	290	-	-	60	120	100	59
pH	5 to 9	-	-	7.54	7.87	7.24	-

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 3: Summary of Metals and Inorganics in Soil

Parameter	MECP Table 1 RPIICC	TP20-7 S1	DUP-2 (TP20-7 S1)	TP20-8 S1	DUP-3 (TP20-8 S1)	TP20-9 S1	DUP-4 (TP20-9 S1)
Date of Collection		27-May-20	27-May-20	29-May-20	29-May-20	29-May-20	29-May-20
Date Reported		29-May-20	29-May-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20
Sampling Depth (mbgs)		0.15-0.4	0.15-0.4	0-0.6	0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		CA14950-MAY20-13	CA14950-MAY20-9	CA15958-MAY20-8	CA15958-MAY20-9	CA15958-MAY20-10	CA15958-MAY20-11
Antimony	1.3	< 0.8	-	< 0.8	< 0.8	< 0.8	< 0.8
Arsenic	18	4.7	4	4.3	4.4	3.1	2.9
Barium	220	89	120	89	87	72	66
Beryllium	2.5	0.45	0.79	0.61	0.6	0.4	0.39
Boron (total)	36	5	9	6	6	7	7
Boron (Hot Water Soluble)	NV	< 0.5	-	-	-	-	-
Cadmium	1.2	0.25	0.43	0.36	0.32	0.27	0.24
Chromium Total	70	18	24	19	20	16	15
Chromium VI	0.66	0.2	-	-	-	-	-
Cobalt	21	8.5	12	11	11	8.5	8.1
Copper	92	24	36	27	28	30	29
Cyanide (CN-)	0.051	< 0.05	-	-	-	-	-
Electrical Conductivity (mS/cm)	0.57	0.14	-	-	-	-	-
Lead	120	32	35	19	20	17	16
Mercury	0.27	0.05	-	< 0.05	< 0.05	< 0.05	0.06
Molybdenum	2	0.4	0.7	0.6	0.5	0.5	0.5
Nickel	82	18	24	21	21	16	15
Selenium	1.5	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7
Silver	0.5	0.09	0.05	0.06	0.06	< 0.05	< 0.05
Sodium Adsorption Ratio	2.4	< 0.2	-	-	-	-	-
Thallium	1	0.12	0.14	0.16	0.15	0.12	0.12
Uranium	2.5	0.66	0.52	0.61	0.7	0.58	0.54
Vanadium	86	26	32	28	29	22	21
Zinc	290	80	92	78	82	96	91
pH	5 to 9	7.61	-	-	-	-	-

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 3: Summary of Metals and Inorganics in Soil

Parameter	MECP Table 1 RPIICC	TP20-10 S1	TP20-11 S1	TP20-12 S1	TP20-13 S1	TP20-14 S1	TP20-15 S1
Date of Collection		29-May-20	29-May-20	29-May-20	29-May-20	29-May-20	29-May-20
Date Reported		02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20
Sampling Depth (mbgs)		0-0.6	0-0.6	0-0.6	0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		CA15958-MAY20 12	CA15958-MAY20 13	CA15958-MAY20 14	CA15958-MAY20 15	CA15958-MAY20 16	CA15958-MAY20 17
Antimony	1.3	< 0.8	-	-	-	-	-
Arsenic	18	2.8	-	-	-	-	-
Barium	220	30	91	28	33	110	39
Beryllium	2.5	0.14	0.5	0.15	0.17	0.75	0.19
Boron (total)	36	6	8	6	6	7	5
Boron (Hot Water Soluble)	NV	< 0.5	-	-	-	-	-
Cadmium	1.2	0.59	0.32	0.47	0.35	0.19	0.14
Chromium Total	70	6.8	17	9.1	7.8	25	9.7
Chromium VI	0.66	< 0.2	-	-	-	-	-
Cobalt	21	3.4	11	3.6	3.6	14	4.1
Copper	92	21	34	17	19	37	23
Cyanide (CN-)	0.051	< 0.05	-	-	-	-	-
Electrical Conductivity (mS/cm)	0.57	0.1	-	-	-	-	-
Lead	120	48	24	59	33	38	19
Mercury	0.27	< 0.05	-	-	-	-	-
Molybdenum	2	0.9	0.5	0.8	1	0.4	1.2
Nickel	82	11	20	11	13	29	15
Selenium	1.5	< 0.7	-	-	-	-	-
Silver	0.5	0.08	< 0.05	0.07	< 0.05	0.06	< 0.05
Sodium Adsorption Ratio	2.4	< 0.2	-	-	-	-	-
Thallium	1	0.08	0.12	0.08	0.07	0.18	0.08
Uranium	2.5	0.49	0.47	0.43	0.27	0.49	0.3
Vanadium	86	23	22	22	23	34	26
Zinc	290	250	170	290	180	89	80
pH	5 to 9	8.16	-	-	-	-	-

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 3: Summary of Metals and Inorganics in Soil

Parameter	MECP Table 1 RPIICC	TP20-16 S1	TP20-17 S1	TP20-18 S1	TP20-19 S1	TP20-20 S1	TP20-21 S1
Date of Collection		29-May-20	29-May-20	29-May-20	29-May-20	29-May-20	29-May-20
Date Reported		02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20
Sampling Depth (mbgs)		0-0.6	0-0.6	0-0.6	0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		CA15958-MAY20 18	CA15958-MAY20 19	CA15958-MAY20 20	CA15958-MAY20 21	CA15958-MAY20 22	CA15958-MAY20 23
Antimony	1.3	-	-	-	< 0.8	< 0.8	-
Arsenic	18	-	-	-	2.5	2.5	-
Barium	220	150	42	70	32	21	15
Beryllium	2.5	0.61	0.17	0.47	0.16	0.12	0.09
Boron (total)	36	6	5	6	5	5	8
Boron (Hot Water Soluble)	NV	-	-	-	< 0.5	< 0.5	-
Cadmium	1.2	0.28	0.17	0.14	0.09	0.25	0.22
Chromium Total	70	20	8.9	18	30	7.6	7
Chromium VI	0.66	-	-	-	0.2	< 0.2	-
Cobalt	21	10	3.7	11	9.3	2.9	3.4
Copper	92	28	22	29	23	15	11
Cyanide (CN-)	0.051	-	-	-	< 0.05	< 0.05	-
Electrical Conductivity (mS/cm)	0.57	-	-	-	0.11	0.17	-
Lead	120	23	21	23	11	23	25
Mercury	0.27	-	-	-	< 0.05	< 0.05	-
Molybdenum	2	0.4	0.8	0.4	0.8	0.8	0.8
Nickel	82	21	13	19	14	10	9.6
Selenium	1.5	-	-	-	< 0.7	< 0.7	-
Silver	0.5	0.08	0.05	0.06	< 0.05	0.05	0.06
Sodium Adsorption Ratio	2.4	-	-	-	< 0.2	< 0.2	-
Thallium	1	0.14	0.08	0.12	0.05	0.06	0.06
Uranium	2.5	1.2	0.37	0.46	0.29	0.38	0.36
Vanadium	86	27	21	25	41	19	16
Zinc	290	86	86	77	45	130	120
pH	5 to 9	-	-	-	8.28	8.06	-

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 3: Summary of Metals and Inorganics in Soil

Parameter	MECP Table 1 RPIICC	TP20-22 S1
Date of Collection		29-May-20
Date Reported		02-Jun-20
Sampling Depth (mbgs)		0-0.6
Analytical Report Reference No.		CA15958-MAY20 24
Antimony	1.3	-
Arsenic	18	-
Barium	220	40
Beryllium	2.5	0.17
Boron (total)	36	4
Boron (Hot Water Soluble)	NV	-
Cadmium	1.2	0.07
Chromium Total	70	8
Chromium VI	0.66	-
Cobalt	21	4
Copper	92	21
Cyanide (CN-)	0.051	-
Electrical Conductivity (mS/cm)	0.57	-
Lead	120	8.6
Mercury	0.27	-
Molybdenum	2	0.8
Nickel	82	17
Selenium	1.5	-
Silver	0.5	< 0.05
Sodium Adsorption Ratio	2.4	-
Thallium	1	0.06
Uranium	2.5	0.26
Vanadium	86	34
Zinc	290	40
pH	5 to 9	-

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 4: Summary of PHCs + BTEX in Soil

Parameter	MECP Table 1 RPIICC	TP20-3 S1	TP20-3 S2	TP20-4 S1	TP20-4 S2	TP20-5 S1
Date of Collection		27-May-20	27-May-20	27-May-20	27-May-20	27-May-20
Date Reported		29-May-20	01-Jun-20	29-May-20	01-Jun-20	29-May-20
Sampling Depth (mbgs)		0-0.5	1.5-1.8	0-0.6	1.5-1.8	0-0.4
Analytical Report Reference No.		CA14950-MAY20-10	CA15913-May20-8	CA14950-MAY20-11	CA15913-May20-9	CA14950-MAY20-12
Benzene	0.02	< 0.02	-	< 0.02	-	< 0.02
Ethylbenzene	0.05	< 0.05	-	< 0.05	-	< 0.05
Toluene	0.2	< 0.05	-	< 0.05	-	< 0.05
Xylenes (Total)	0.05	< 0.05	-	< 0.05	-	< 0.05
F1-BTEX	25	<10	-	<10	-	<10
F2 (C10-C16)	10	22	<10	11	<10	< 10
F3 (C16-C34)	240	1960	<50	1480	<50	987
F4 (C34-C50)	120	5830	<50	4500	<50	2340

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 4: Summary of PHCs + BTEX in Soil

Parameter	MECP Table 1 RPIICC	TP20-5 S2	TP20-8 S1	DUP-3 (TP20-8 S1)	TOP20-9 S1	DUP-4 (TP20-9 S1)
Date of Collection		27-May-20	29-May-20	29-May-20	29-May-20	29-May-20
Date Reported		01-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20
Sampling Depth (mbgs)		1.5-1.8	0-0.6	0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		CA15913-May20- 10	CA15958-MAY20 8	CA15958-MAY20 9	CA15958-MAY20 10	CA15958-MAY20 11
Benzene	0.02	-	-	-	-	-
Ethylbenzene	0.05	-	-	-	-	-
Toluene	0.2	-	-	-	-	-
Xylenes (Total)	0.05	-	-	-	-	-
F1-BTEX	25	-	-	-	-	-
F2 (C10-C16)	10	<10	<10	<10	<10	<10
F3 (C16-C34)	240	<50	<50	<50	70	76
F4 (C34-C50)	120	<50	<50	<50	<50	<50

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 4: Summary of PHCs + BTEX in Soil

Parameter	MECP Table 1 RPIICC	TP20-10 S1	TP20-11 S1	TP20-12 S1	TP20-13 S1	TP20-14 S1
Date of Collection		29-May-20	29-May-20	29-May-20	29-May-20	29-May-20
Date Reported		02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20
Sampling Depth (mbgs)		0-0.6	0-0.6	0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		CA15958-MAY20 12	CA15958-MAY20 13	CA15958-MAY20 14	CA15958-MAY20 15	CA15958-MAY20 16
Benzene	0.02	-	-	< 0.02	< 0.02	-
Ethylbenzene	0.05	-	-	< 0.05	< 0.05	-
Toluene	0.2	-	-	< 0.05	< 0.05	-
Xylenes (Total)	0.05	-	-	< 0.05	< 0.05	-
F1-BTEX	25	-	-	<10	<10	-
F2 (C10-C16)	10	35	<10	16	<10	<10
F3 (C16-C34)	240	2320	134	1140	1450	<50
F4 (C34-C50)	120	6730	81	3560	4240	<50

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 4: Summary of PHCs + BTEX in Soil

Parameter	MECP Table 1 RPIICC	TP20-15 S1	TP20-16 S1	TP20-17 S1	TP20-18 S1	TP20-19 S1
Date of Collection		29-May-20	29-May-20	29-May-20	29-May-20	29-May-20
Date Reported		02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20
Sampling Depth (mbgs)		0-0.6	0-0.6	0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		CA15958-MAY20 17	CA15958-MAY20 18	CA15958-MAY20 19	CA15958-MAY20 20	CA15958-MAY20 21
Benzene	0.02	< 0.02	< 0.02	< 0.02	-	< 0.02
Ethylbenzene	0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
Toluene	0.2	< 0.05	< 0.05	< 0.05	-	< 0.05
Xylenes (Total)	0.05	< 0.05	< 0.05	< 0.05	-	< 0.05
F1-BTEX	25	<10	<10	<10	-	<10
F2 (C10-C16)	10	<10	<10	11	<10	14
F3 (C16-C34)	240	1350	<50	1290	92	1630
F4 (C34-C50)	120	3140	<50	2830	199	5110

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 4: Summary of PHCs + BTEX in Soil

Parameter	MECP Table 1 RPIICC	TP20-20 S1	TP20-21 S1	TP20-22 S1
Date of Collection		29-May-20	29-May-20	29-May-20
Date Reported		02-Jun-20	02-Jun-20	02-Jun-20
Sampling Depth (mbgs)		0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		CA15958-MAY20 22	CA15958-MAY20 23	CA15958-MAY20 24
Benzene	0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	0.05	< 0.05	< 0.05	< 0.05
Toluene	0.2	< 0.05	< 0.05	< 0.05
Xylenes (Total)	0.05	< 0.05	< 0.05	< 0.05
F1-BTEX	25	<10	<10	<10
F2 (C10-C16)	10	13	12	14
F3 (C16-C34)	240	1110	832	1630
F4 (C34-C50)	120	3510	2680	3880

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 5: Summary of VOCs in Soil

Parameter	MECP Table 1 RPIICC	TP20-3 S1	TP20-4 S1	TP20-5 S1
Date of Collection		27-May-20	27-May-20	27-May-20
Date Reported		29-May-20	29-May-20	29-May-20
Sampling Depth (mbgs)		0-0.5	0-0.6	0-0.4
Analytical Report Reference No.		CA14950-MAY 20-10	CA14950- MAY20-11	CA14950- MAY20-12
Tetrachloroethane, 1,1,1,2-	0.05	< 0.05	< 0.05	< 0.05
Trichloroethane, 1,1,1-	0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethane, 1,1,2,2-	0.05	< 0.05	< 0.05	< 0.05
Trichloroethane, 1,1,2-	0.05	< 0.05	< 0.05	< 0.05
Dichloroethane, 1,1-	0.05	< 0.05	< 0.05	< 0.05
Dichloroethylene, 1,1-	0.05	< 0.05	< 0.05	< 0.05
Dichlorobenzene, 1,2-	0.05	< 0.05	< 0.05	< 0.05
Dichloroethane, 1,2-	0.05	< 0.05	< 0.05	< 0.05
Dichloropropane, 1,2-	0.05	< 0.05	< 0.05	< 0.05
Dichlorobenzene, 1,3-	0.05	< 0.05	< 0.05	< 0.05
Dichloropropene, 1,3-	0.05	< 0.05	< 0.05	< 0.05
Dichlorobenzene, 1,4-	0.05	< 0.05	< 0.05	< 0.05
Acetone	0.5	< 0.5	< 0.5	< 0.5
Bromomethane	0.05	< 0.05	< 0.05	< 0.05
Carbon Tetrachloride	0.05	< 0.05	< 0.05	< 0.05
Chlorobenzene	0.05	< 0.05	< 0.05	< 0.05
Chloroform	0.05	< 0.05	< 0.05	< 0.05
Dichloroethylene, 1,2-cis-	0.05	< 0.05	< 0.05	< 0.05
Dichloroethylene, 1,2-trans-	0.05	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	0.05	< 0.05	< 0.05	< 0.05
Ethylene dibromide	0.05	< 0.05	< 0.05	< 0.05
Methyl Ethyl Ketone	0.5	< 0.5	< 0.5	< 0.5
Methyl Isobutyl Ketone	0.5	< 0.5	< 0.5	< 0.5
Methyl tert-Butyl Ether (MTBE)	0.05	< 0.05	< 0.05	< 0.05
Methylene Chloride	0.05	< 0.05	< 0.05	< 0.05
Hexane (n)	0.05	< 0.05	< 0.05	< 0.05
Styrene	0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethylene	0.05	< 0.05	< 0.05	< 0.05
Trichloroethylene	0.05	< 0.05	< 0.05	< 0.05
Trichlorofluoromethane	0.25	< 0.05	< 0.05	< 0.05
Vinyl Chloride	0.02	< 0.02	< 0.02	< 0.02
Bromodichloromethane	0.05	< 0.05	< 0.05	< 0.05
Bromoform	0.05	< 0.05	< 0.05	< 0.05
Dibromochloromethane	0.05	< 0.05	< 0.05	< 0.05

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 6: Summary of PAHs in Soil

Parameter	MECP Table 1 RPIICC	TP20-3 S1	TP20-3 S2	TP20-4 S1	TP20-4 S2	TP20-5 S1	TP20-5 S2
Date of Collection		27-May-20	27-May-20	27-May-20	27-May-20	27-May-20	27-May-20
Date Reported		29-May-20	01-Jun-20	29-May-20	01-Jun-20	29-May-20	01-Jun-20
Screen Interval (mbgs)		0-0.5	1.5-1.8	0-0.6	1.5-1.8	0-0.4	1.5-1.8
Analytical Report Reference No.		CA14950-MAY20-10	CA15913-May20-8	CA14950-MAY10-11	CA15913-May20-9	CA14950-MAY10-12	CA15913-May20-10
Methylnaphthalene, 2-(1-)	0.59	< 0.1	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Acenaphthene	0.072	< 0.1	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Acenaphthylene	0.093	0.64	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Anthracene	0.16	0.44	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Benz(a)anthracene	0.36	1.74	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Benzo(a)pyrene	0.3	1.89	< 0.05	0.11	< 0.05	< 0.1	< 0.05
Benzo(b+j)fluoranthene	0.47	2.78	< 0.05	< 0.25	< 0.05	< 0.25	< 0.05
Benzo(g,h,i)perylene	0.68	0.76	< 0.1	0.57	< 0.1	0.14	< 0.1
Benzo(k)fluoranthene	0.48	0.78	< 0.05	< 0.25	< 0.05	< 0.25	< 0.05
Chrysene	2.8	1.94	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Dibenz(a,h)anthracene	0.1	0.23	< 0.06	0.16	< 0.06	< 0.1	< 0.06
Fluoranthene	0.56	4.08	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Fluorene	0.12	0.17	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Indeno(1,2,3-cd)pyrene	0.23	0.74	< 0.1	0.15	< 0.1	< 0.1	< 0.1
Naphthalene	0.09	< 0.1	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Phenanthrene	0.69	1.16	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Pyrene	1	3.84	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 6: Summary of PAHs in Soil

Parameter	MECP Table 1 RPIICC	TP20-8 S1	DUP-3 (TP20-8 S1)	TP20-9 S1	TP20-10 S1	TP20-11 S1	TP20-12 S1
Date of Collection		29-May-20	29-May-20	29-May-20	29-May-20	29-May-20	29-May-20
Date Reported		02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20
Screen Interval (mbgs)		0-0.6	0-0.6	0-0.6	0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		CA15958-MAY20 8	CA15958-MAY20 9	CA15958-MAY20 10	CA15958-MAY20 12	CA15958-MAY20 13	CA15958-MAY20 14
Methylnaphthalene, 2-(1-)	0.59	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.1
Acenaphthene	0.072	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.1
Acenaphthylene	0.093	< 0.05	< 0.05	< 0.05	0.35	< 0.05	< 0.1
Anthracene	0.16	< 0.05	< 0.05	< 0.05	0.25	< 0.05	< 0.1
Benz(a)anthracene	0.36	< 0.05	< 0.05	< 0.05	1.62	< 0.05	< 0.1
Benzo(a)pyrene	0.3	< 0.05	< 0.05	< 0.05	1.76	< 0.05	0.17
Benzo(b+j)fluoranthene	0.47	< 0.05	< 0.05	< 0.05	2.52	< 0.05	< 0.25
Benzo(g,h,i)perylene	0.68	< 0.1	< 0.1	< 0.1	1.19	< 0.1	< 0.5
Benzo(k)fluoranthene	0.48	< 0.05	< 0.05	< 0.05	0.85	< 0.05	< 0.25
Chrysene	2.8	< 0.05	< 0.05	< 0.05	1.41	< 0.05	< 0.1
Dibenz(a,h)anthracene	0.1	< 0.06	< 0.06	< 0.06	0.33	< 0.06	< 0.2
Fluoranthene	0.56	< 0.05	< 0.05	< 0.05	2.83	< 0.05	< 0.1
Fluorene	0.12	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.1
Indeno(1,2,3-cd)pyrene	0.23	< 0.1	< 0.1	< 0.1	0.87	< 0.1	< 0.2
Naphthalene	0.09	< 0.05	< 0.05	< 0.05	< 0.1	< 0.05	< 0.1
Phenanthrene	0.69	< 0.05	< 0.05	< 0.05	0.71	< 0.05	< 0.1
Pyrene	1	< 0.05	< 0.05	< 0.05	2.64	< 0.05	0.12

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 6: Summary of PAHs in Soil

Parameter	MECP Table 1 RPIICC	TP20-13 S1	TP20-14 S1	TP20-15 S1	TP20-16 S1	TP20-17 S1	TP20-18 S1
Date of Collection		29-May-20	29-May-20	29-May-20	29-May-20	29-May-20	29-May-20
Date Reported		02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20
Screen Interval (mbgs)		0-0.6	0-0.6	0-0.6	0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		CA15958-MAY20 15	CA15958-MAY20 16	CA15958-MAY20 17	CA15958-MAY20 18	CA15958-MAY20 19	CA15958-MAY20 20
Methylnaphthalene, 2-(1-)	0.59	< 0.1	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Acenaphthene	0.072	< 0.1	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Acenaphthylene	0.093	< 0.1	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Anthracene	0.16	< 0.1	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Benz(a)anthracene	0.36	< 0.1	< 0.05	< 0.1	0.1	< 0.1	0.07
Benzo(a)pyrene	0.3	0.25	< 0.05	0.11	0.07	< 0.1	< 0.05
Benzo(b+j)fluoranthene	0.47	< 0.25	< 0.05	< 0.25	0.08	< 0.25	0.06
Benzo(g,h,i)perylene	0.68	< 0.5	< 0.1	0.38	< 0.1	0.2	< 0.1
Benzo(k)fluoranthene	0.48	< 0.25	< 0.05	< 0.25	< 0.05	< 0.25	< 0.05
Chrysene	2.8	< 0.1	< 0.05	< 0.1	0.07	< 0.1	0.06
Dibenz(a,h)anthracene	0.1	< 0.2	< 0.06	0.14	< 0.06	< 0.1	< 0.06
Fluoranthene	0.56	< 0.1	< 0.05	< 0.1	0.14	< 0.1	0.08
Fluorene	0.12	< 0.1	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Indeno(1,2,3-cd)pyrene	0.23	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Naphthalene	0.09	< 0.1	< 0.05	< 0.1	< 0.05	< 0.1	< 0.05
Phenanthrene	0.69	< 0.1	< 0.05	< 0.1	0.1	< 0.1	< 0.05
Pyrene	1	0.14	< 0.05	< 0.1	0.11	< 0.1	0.07

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 6: Summary of PAHs in Soil

Parameter	MECP Table 1 RPIICC	TP20-19 S1	TP20-20 S1	TP20-21 S1	TP20-22 S1
Date of Collection		29-May-20	29-May-20	29-May-20	29-May-20
Date Reported		02-Jun-20	02-Jun-20	02-Jun-20	02-Jun-20
Screen Interval (mbgs)		0-0.6	0-0.6	0-0.6	0-0.6
Analytical Report Reference No.		CA15958-MAY20 21	CA15958-MAY20 22	CA15958-MAY20 23	CA15958-MAY20 24
Methylnaphthalene, 2-(1-)	0.59	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	0.072	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	0.093	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	0.16	< 0.1	< 0.1	< 0.1	< 0.1
Benz(a)anthracene	0.36	< 0.1	< 0.1	< 0.1	0.13
Benzo(a)pyrene	0.3	0.12	0.19	< 0.1	0.27
Benzo(b+j)fluoranthene	0.47	< 0.25	< 0.25	< 0.25	0.45
Benzo(g,h,i)perylene	0.68	0.51	0.39	0.25	0.48
Benzo(k)fluoranthene	0.48	< 0.25	< 0.25	< 0.25	< 0.25
Chrysene	2.8	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	0.1	0.13	0.11	< 0.1	0.13
Fluoranthene	0.56	< 0.1	< 0.1	< 0.1	0.25
Fluorene	0.12	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	0.23	< 0.1	0.11	< 0.1	0.25
Naphthalene	0.09	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	0.69	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	1	< 0.1	0.11	< 0.1	0.35

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.



Table 7: Summary of OCPs in Soil

Parameter	MECP Table 1 RPIICC	TS20-1	Dup-S1 (TS20-1)	TS20-2	TS20-3	TS20-4	TS20-5	TS20-6
Date of Collection		15-May-20	15-May-20	15-May-20	15-May-20	15-May-20	15-May-20	15-May-20
Date Reported		27-May-20	27-May-20	27-May-20	27-May-20	27-May-20	27-May-20	27-May-20
Screen Interval (mbgs)		0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	0-0.3	0-0.3
Analytical Report Reference No.		CA14639-MAY20-8	CA14639-MAY20-14	CA14639-MAY20-9	CA14639-MAY20-10	CA14639-MAY20-11	CA14639-MAY20-12	CA14639-MAY20-13
Aldrin	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chlordane	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
DDD	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
DDE	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
DDT	1.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Endosulfan	0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Endrin	0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Hexachlorocyclohexane Gamma-	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor	0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor Epoxide	0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachloroethane	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

For Table Notes see **Notes for Soil and Groundwater Summary Tables**, included at the end of this Section.

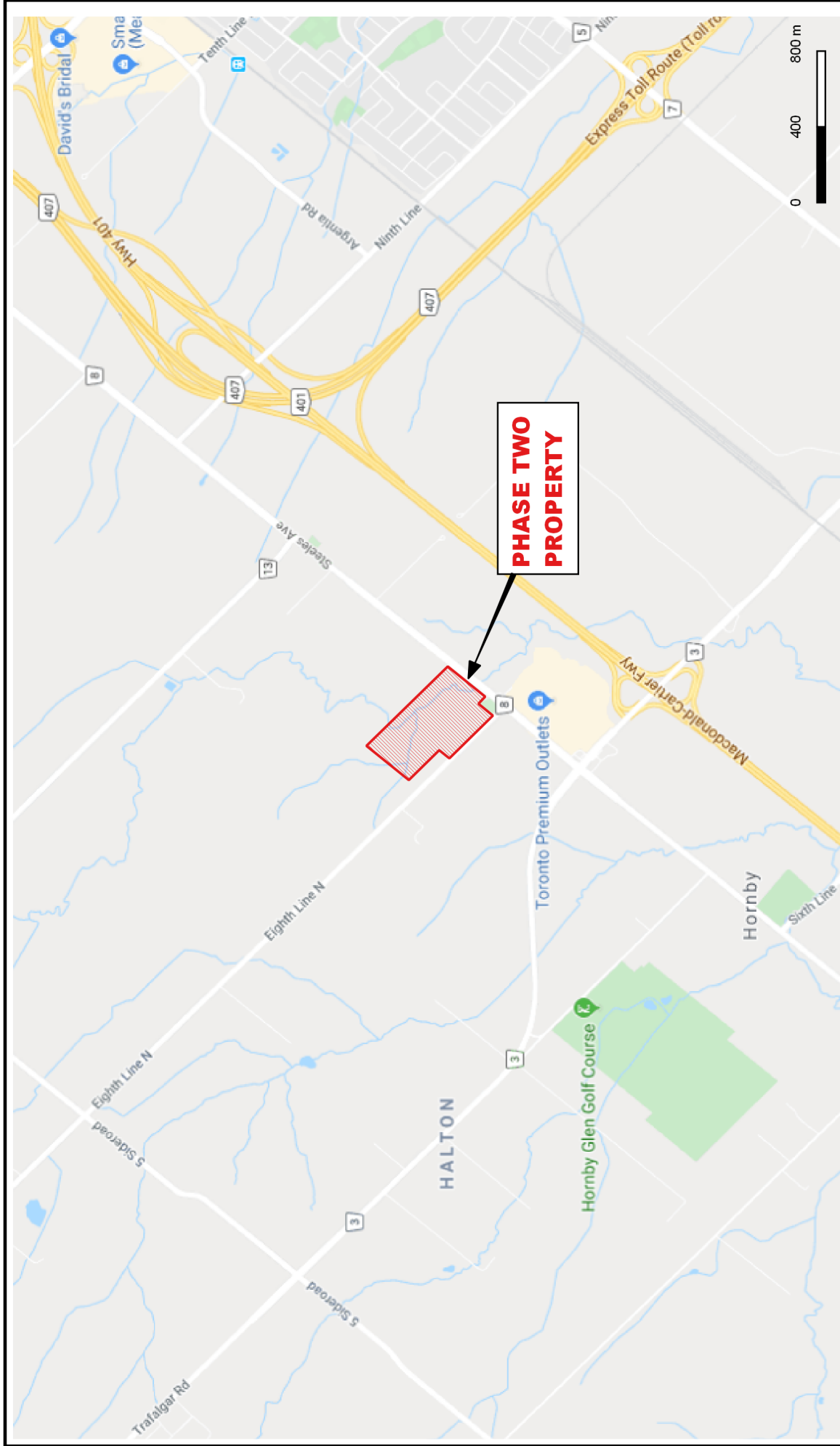


Notes for Soil and Groundwater Summary Tables


	For soil and groundwater analytical results, concentration exceeds the applicable Standards.
	For soil and groundwater analytical results, laboratory detection limits exceed the applicable Standards.
BTEX	Benzene, Toluene, Ethylbenzene, Xylene
masl	Meters above sea level
MECP Table 1 SCS	Full Depth Background Site Condition Standards as contained in Table 1 of the "Soil, Ground Water and Sediment Standards for Use Under Part XV.1 of the Environmental Protection Act", published by the MECP on April 15, 2011.
mbgs	Meters below ground surface
NM	Not Monitored
NA	Not Available
OCPs	Organochlorine Pesticides
PAH	Polycyclic Aromatic Hydrocarbon
PCH	Petroleum Hydrocarbon
Units	Units for all soil analyses are in µg/g (ppm) unless otherwise indicated
Units	Units for all groundwater analyses are in µg/L (ppb) unless otherwise indicated



Figures



Legend

 Approx. Site Boundary



DS CONSULTANTS LTD.
6221 Highway 7, UNIT 16
Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
www.dsconsultants.ca

Client:

MR. GLEN HANSEN

Project: PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
8079 Eighth Line N, Halton Hills, Ontario

Title: **SITE LOCATION PLAN**

Size: 8.5 x 11
Rev: 0

Approved By: D.D

Scale: As Shown

Drawn By: S.Y

Project No.: 19-040-101

Date: June 2020

Figure No.: **1**

Image/Map Source: Google Street Map



Legend

Approx. Site Boundary



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Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
www.dsconsultants.ca

Client:

MR. GLEN HANSEN

Project:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
8079 Eighth Line N, Halton Hills, Ontario

Title:

PHASE TWO PROPERTY SITE PLAN

Size:
8.5 x 11

Approved By:

D.D

Drawn By:

S.Y

Date:

June 2020

Rev:

0

Scale:

As Shown

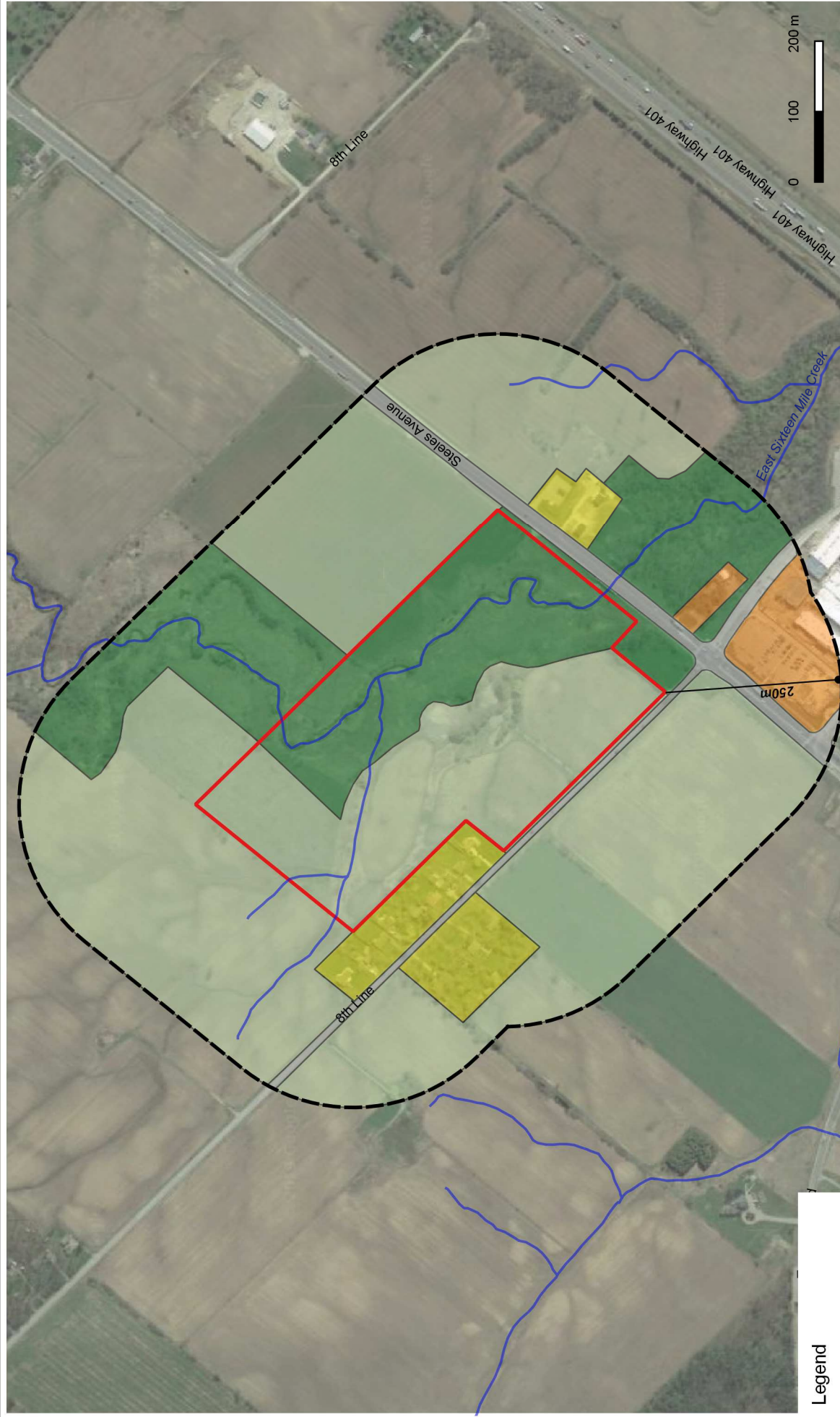
Project No.:

19-040-101

Figure No.:

2

Image/Map Source: Google Satellite Image



Legend

Approx. Site Boundary

250m Buffer

Residential

Commercial

Agricultural

Parkland

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Client:

MR. GLEN HANSEN

Project:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
8079 Eighth Line N, Halton Hills, Ontario

Title:

PHASE TWO STUDY AREA

Size:

8.5 x 11

Rev:

Approved By:

D.D

Drawn By:

S.Y

Date:

June 2020

Scale:

As Shown

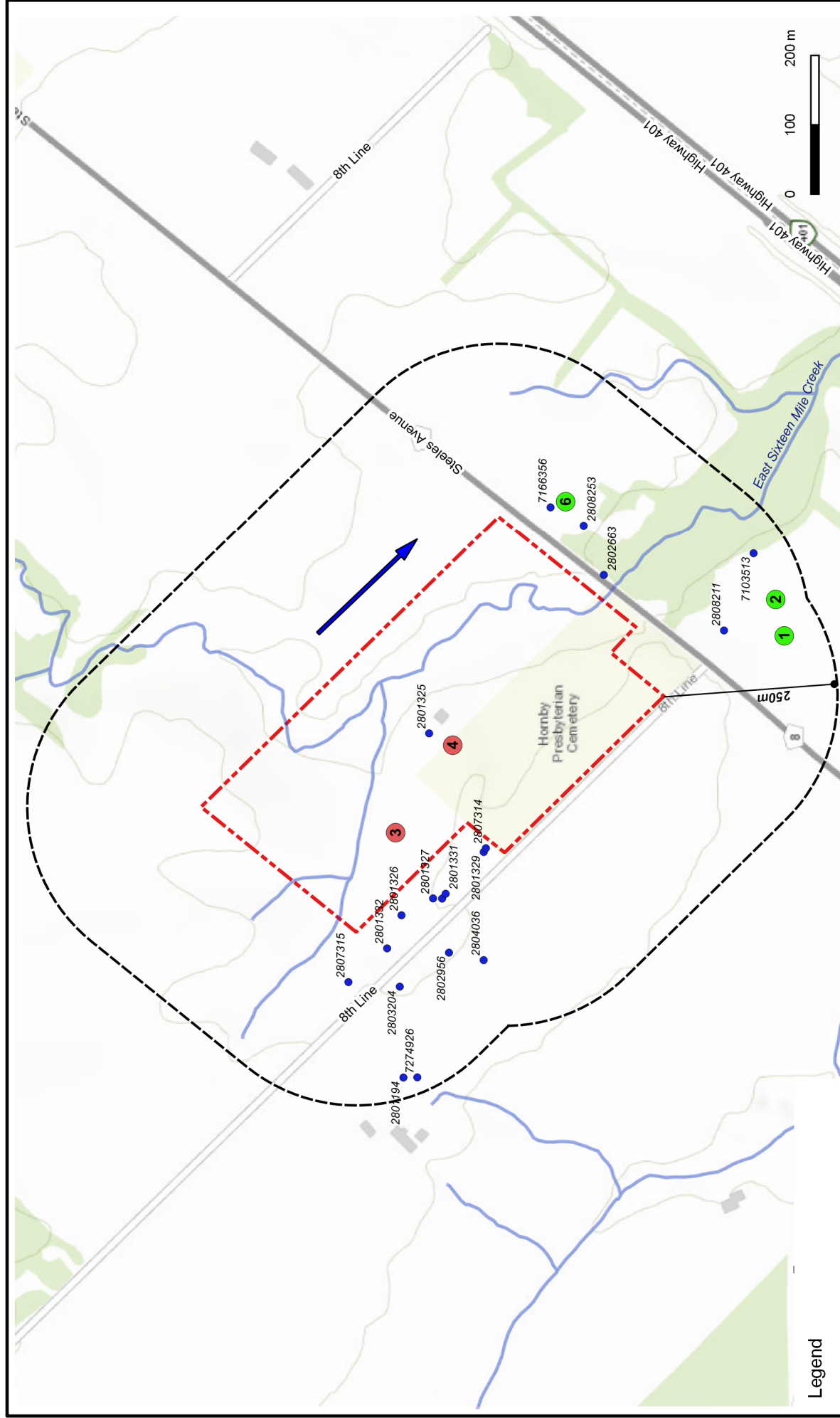
Project No.:

19-040-101

Figure No.:

3

Image/Map Source: Google Satellite Image



Legend

Approx. Site Boundary

250m Buffer

Registered Water Wells (MECP WWR)

PCA not contributing to APEC

PCA contributing to APEC

Inferred Groundwater Flow Direction

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Vaughan, Ontario L4H 0K8
Telephone: (905) 264-9393
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Client:

MR. GLEN HANSEN

Project:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
8079 Eighth Line N, Halton Hills, Ontario

Title:

PCA WITHIN PHASE TWO STUDY AREA

Size:

8.5 x 11

Rev:

Approved By:

D.D

Drawn By:

S.Y

Date:

June 2020

Scale:

As Shown

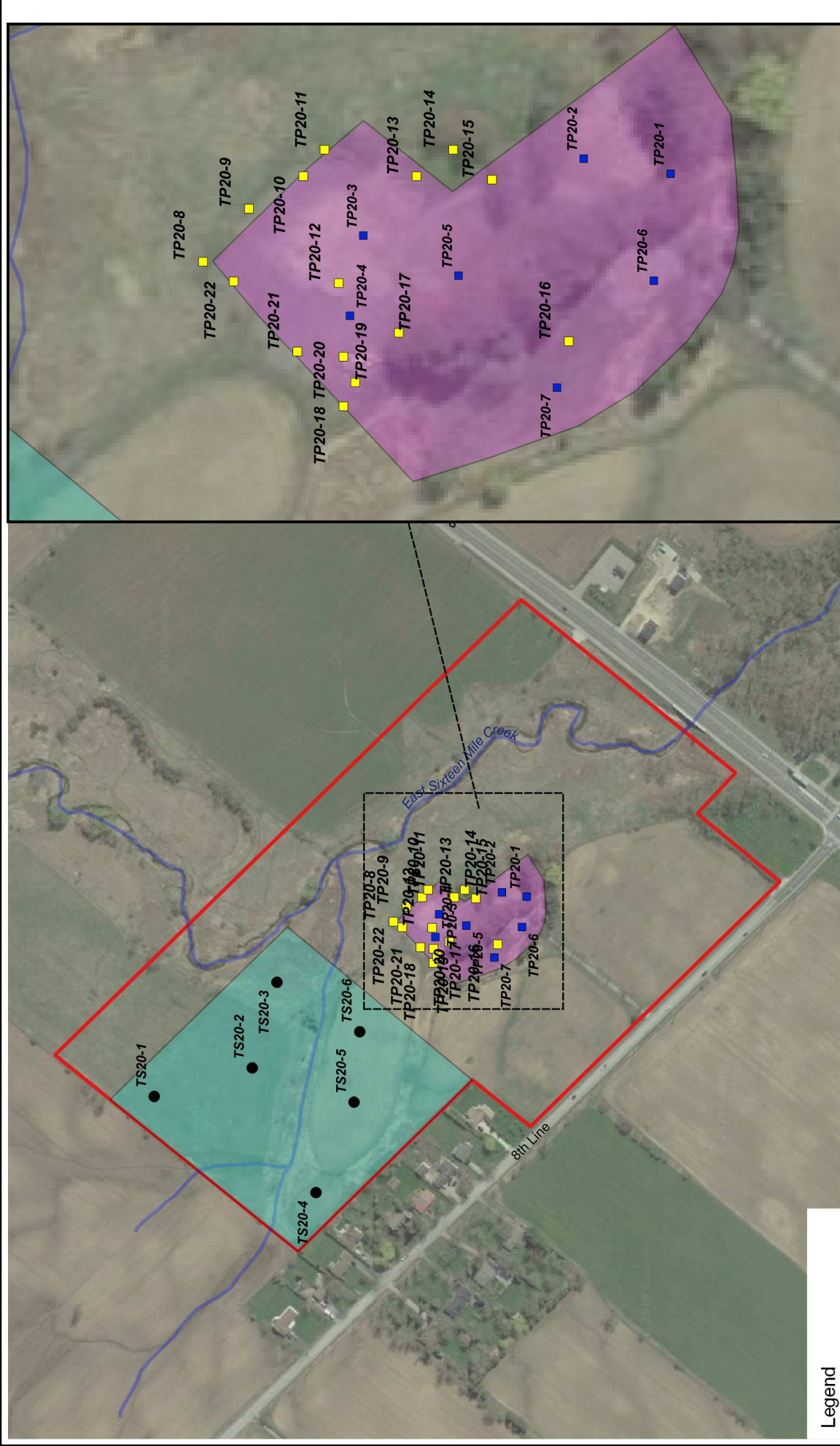
Project No.:

19-040-101

Figure No.:

4

Image/Map Source: Esri Topo Map



Legend

- Approx. Site Boundary
- APEC 1
- APEC 2
- Topsoil Sample
- Test Pit (May 27, 2020)
- Test Pit (May 29, 2020)

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 Vaughan, Ontario L4H 0K8
 Telephone: (905) 264-9393
 www.dsconsultants.ca

Client:

MR. GLEN HANSEN

Project:

PHASE TWO ENVIRONMENTAL SITE ASSESSMENT
 8079 Eighth Line N, Halton Hills, Ontario

Title:

TEST PIT LOCATION PLAN WITH APEC AREAS

Size:

8.5 x 11

Approved By:

D.D

Drawn By:

S.Y

Date:

June 2020

Scale:

As Shown

Project No.:

19-040-101

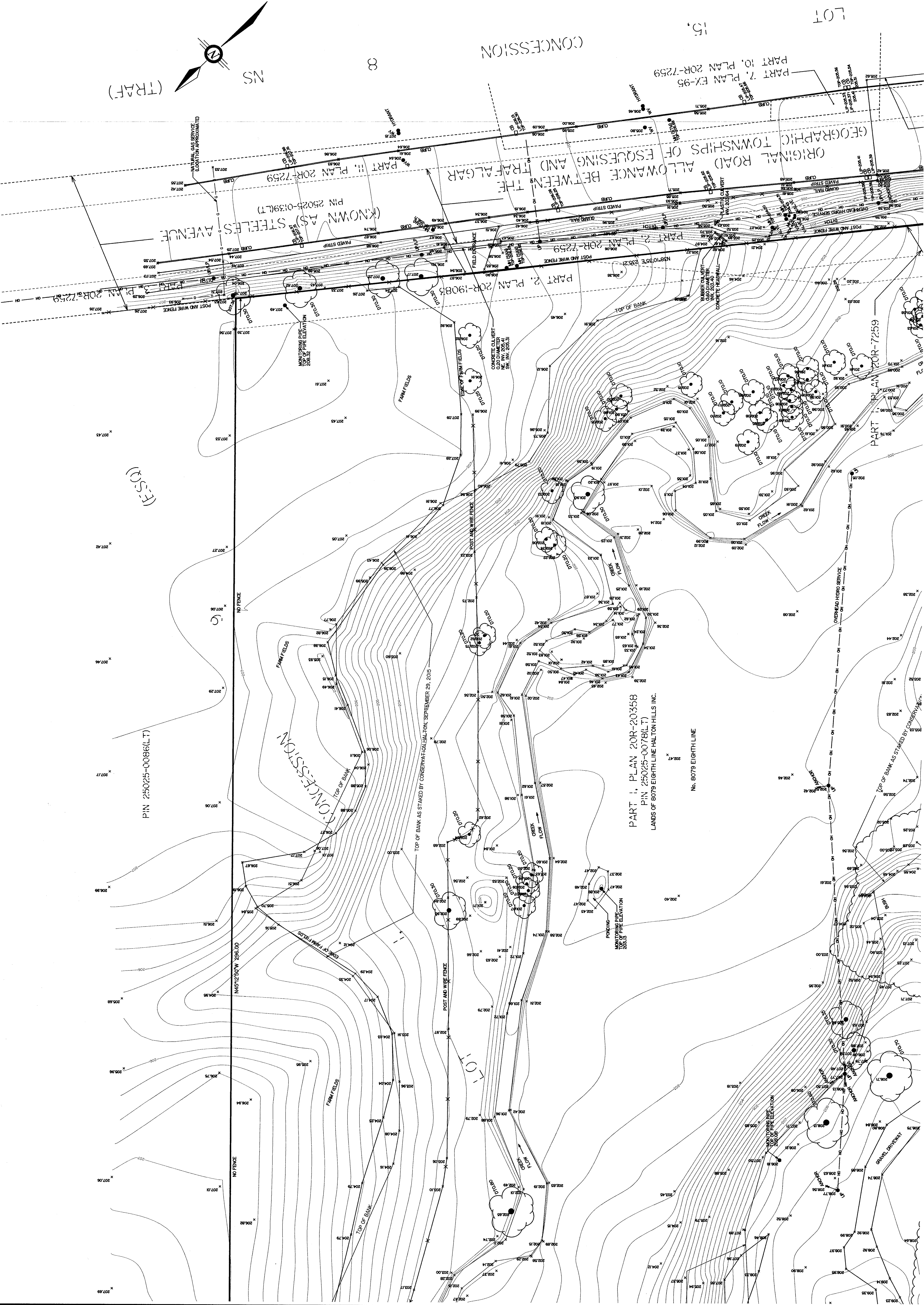
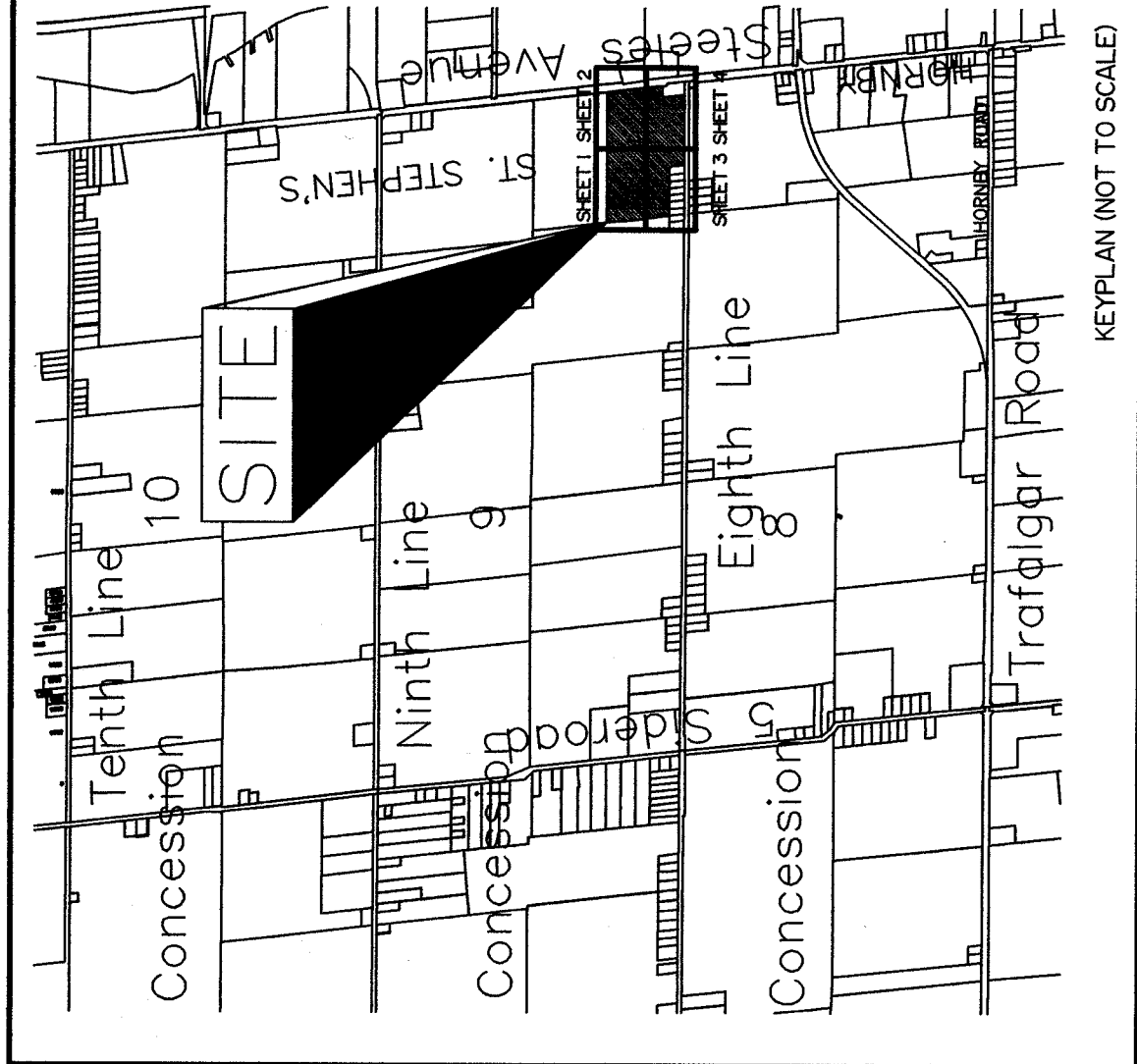
Figure No.:

5

Image/Map Source: Google Satellite Image



Appendix A



VERSION NOTES:			
#	DATE	ORIGINAL - EXISTING TOPOGRAPHIC DETAIL	FILE NO.
1	JUNE 7, 2019	ORIGINAL - EXISTING TOPOGRAPHIC DETAIL	6052-2880

SITE DATA:
LEGAL DESCRIPTION:
PART OF LOT 1, CONCESSION 9 (E50)
RECONSTRUCTED MUNICIPALITY OF HALTON
PIN: 25025-0078 (LT)
REGISTERED EASEMENTS:
SUBJECT TO: NONE
CURRENT OWNER: 8079 EIGHTH LINE HALTON HILLS INC.

SURVEYOR'S CERTIFICATE
I CERTIFY THAT:
1. THIS SKETCH REFLECTS CONDITIONS AT THE TIME OF THE SURVEY AND THAT THE SURVEYOR HAS
2. THE DATE OF THIS PLAN IS MAY 2019.
DATE: JUNE 7, 2019
Signature: [Signature]
Ontario Land Surveyor

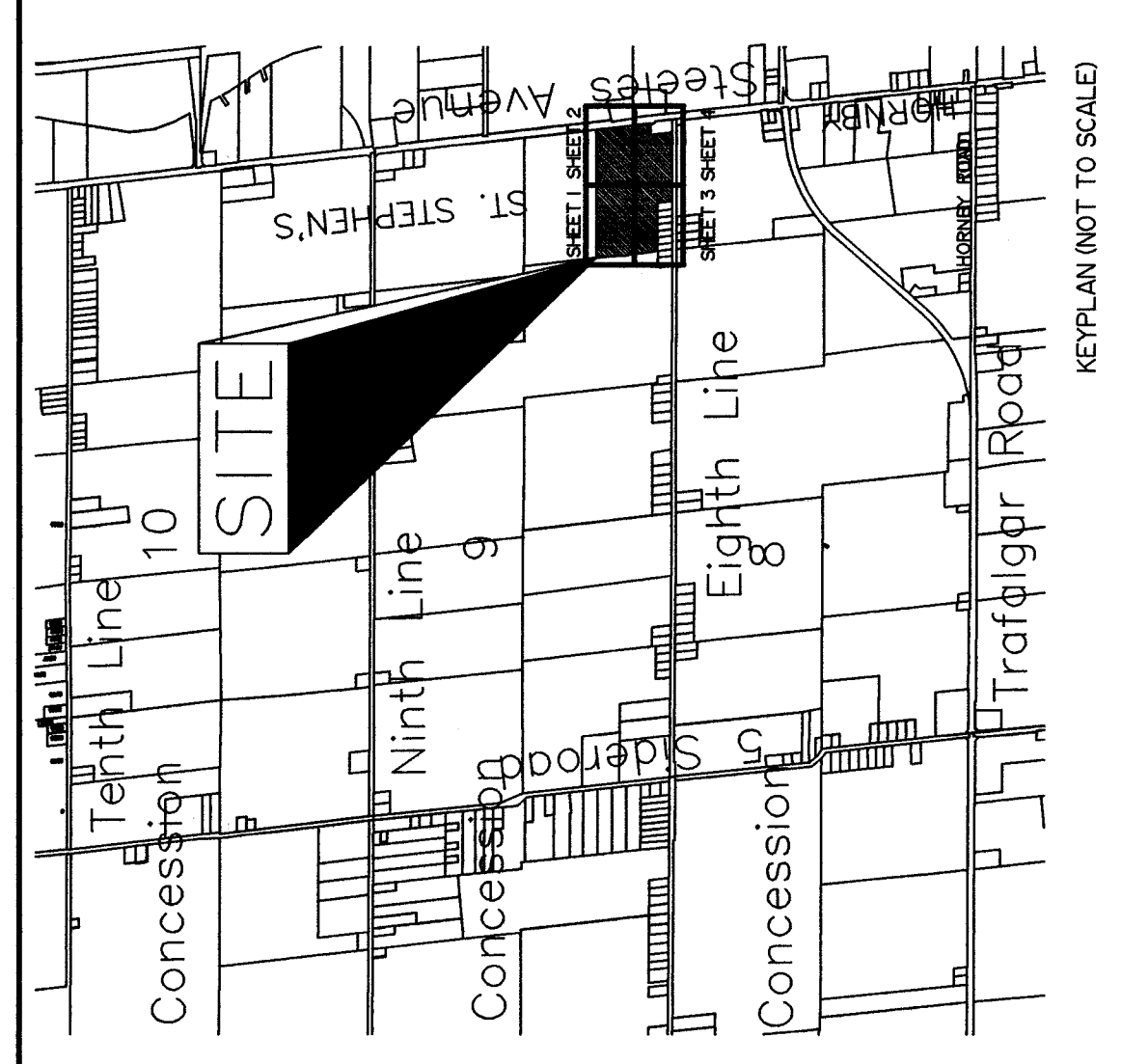
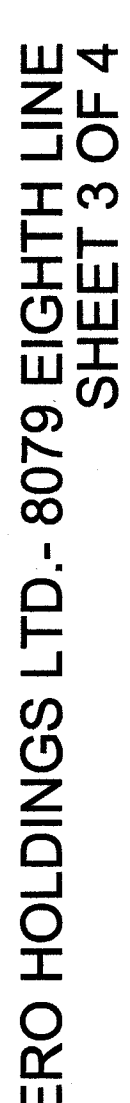
NOTE:
THIS SKETCH REFLECTS CONDITIONS AT THE TIME OF THE SURVEY AND THAT THE SURVEYOR HAS
1. THE DATE OF THIS PLAN IS MAY 2019.
CAUTION:
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EXCEPT FOR THE PURPOSE INDICATED IN THE TITLE BLOCK.
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LEGEND
SYMBOLS
--- FENCE
--- NO FENCE
--- TOP OF BANK
--- TOP OF BANK AS STAKED BY CONSERVATION
--- OVERHEAD HYDRO SERVICE
--- WATER VALVE
--- CATCH BASIN
--- TRAFFIC SIGNAL
--- AND/OR PALE
--- BELL CANADA GAS SERVICE
--- OVERHEAD HYDRO SERVICE
--- NATURAL GAS SERVICE
--- BELL CANADA GAS SERVICE
--- TRAFFIC SIGNAL
--- CATCH BASIN
--- AND/OR PALE
--- BELL CANADA GAS SERVICE
--- OVERHEAD HYDRO SERVICE
--- NATURAL GAS SERVICE
--- BELL CANADA GAS SERVICE

NOTES
1. ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE DERIVED FROM THE CANADIAN NATIONAL DATUM (1984) AND ARE NOT TO BE USED FOR ANY OTHER PURPOSE.
2. THE DEPTH AND SIZE OF BURIED SERVICES CANNOT BE DETERMINED AND MUST BE ASSUMED TO BE 1.0 METER DEEP AND 1.0 METER WIDE.
3. OTHER BURIED UTILITIES MAY EXIST WHICH ARE NOT SHOWN BECAUSE OF INSUFFICIENT INFORMATION.
4. THE DEPTH AND SIZE OF BURIED SERVICES CANNOT BE DETERMINED AND MUST BE ASSUMED TO BE 1.0 METER DEEP AND 1.0 METER WIDE.
5. OTHER BURIED UTILITIES MAY EXIST WHICH ARE NOT SHOWN BECAUSE OF INSUFFICIENT INFORMATION.

VERTICAL DATUM
ELEVATIONS SHOWN HEREON ARE GEODETIC AND ARE DERIVED FROM THE CANADIAN NATIONAL DATUM (1984) AND ARE NOT TO BE USED FOR ANY OTHER PURPOSE.
TRANSFER SYSTEM 2000 - (ALSO KNOWN AS NZ OR NZ2000)
HORIZONTAL DATUM
UTM ZONE 17
PROJECTION
UNIVERSAL TRANSVERSE MERCATOR
COMBINED SCALE FACTOR
0.99968247

HODERO HOLDINGS LTD.- 8079 EIGHTH LINE
SHEET 2 OF 4
DOLLIVER SURVEYING INC.
ONTARIO LAND SURVEYOR
54 MILL STREET EAST
HALTON HILLS, ONTARIO, L1J 1H5
TEL: (905) 883-2802
E-mail: survey@dolliver.com
File No. 1603-2880
Drawing Scale: 1:500
Sheet 2 of 4



KEYPLAN (NOT TO SCALE)

SHEET 3 OF 4
HODERO HOLDINGS LTD.- 8079 EIGHTH LINE

[illegible]

NOTE THAT ANY AND ALL SERVICES ARE SHOWN IN APPROXIMATE POSITIONS ONLY AND ALL SERVICES

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SEWERS MUST BE LOCATED BY THE RESPECTIVE
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THE DEPTH AND SIZES OF BURIED SERVICES CANNOT
BE GUARANTEED AND MUST BE EXCAVATED TO
DETERMINE EXACT LOCATION AND DEPTH.

DETERMINE SIZES, LOCATIONS AND DEPTHS.
OTHER BURIED UTILITIES MAY EXIST WHICH ARE NOT
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Drawing Scale: 1"=500'	Sheet 3 OF 4

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Drawing Scale: 1"=500'	Sheet 3 OF 4

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Drawing Scale: 1"=500'	Sheet 3 OF 4

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Plot Scale: 1"=1'	File No. 1603-2GRID
Drawing Scale: 1"=500'	Sheet 3 OF 4

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Plot Scale: 1"=1'	File No. 1603-2GRID
Drawing Scale: 1"=500'	Sheet 3 OF 4

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Plot Scale: 1"=1'	File No. 1603-2GRID
Drawing Scale: 1"=500'	Sheet 3 OF 4

NOTE THAT ANY AND ALL SERVICES ARE SHOWN IN APPROXIMATE POSITIONS ONLY AND ALL SERVICES

INCLUDING BUT NOT LIMITED TO NATURAL GAS,
BELL CANADA, HYDRO, SANITARY AND STORM
SEWERS MUST BE LOCATED BY THE RESPECTIVE
UTILITY BEFORE CONSTRUCTION OR ELEVATION
CODES

THE DEPTH AND SIZES OF BURIED SERVICES CANNOT
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DETERMINE EXACT LOCATION AND DEPTH.

DETERMINE SIZES, LOCATIONS AND DEPTHS.
OTHER BURIED UTILITIES MAY EXIST WHICH ARE NOT
SHOWN BECAUSE OF INSUFFICIENT INFORMATION

Plot Scale:	1:1	File No. 1603-2GRID
Drawing Scale:	1:500	Sheet 3 OF 4

NOTE THAT ANY AND ALL SERVICES ARE SHOWN IN APPROXIMATE POSITIONS ONLY AND ALL SERVICES

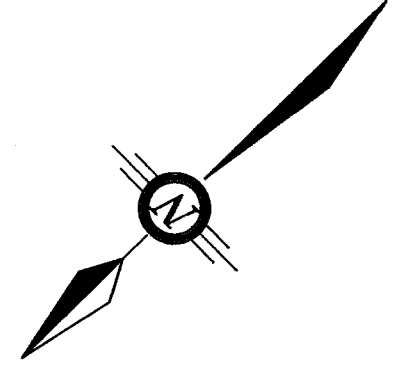
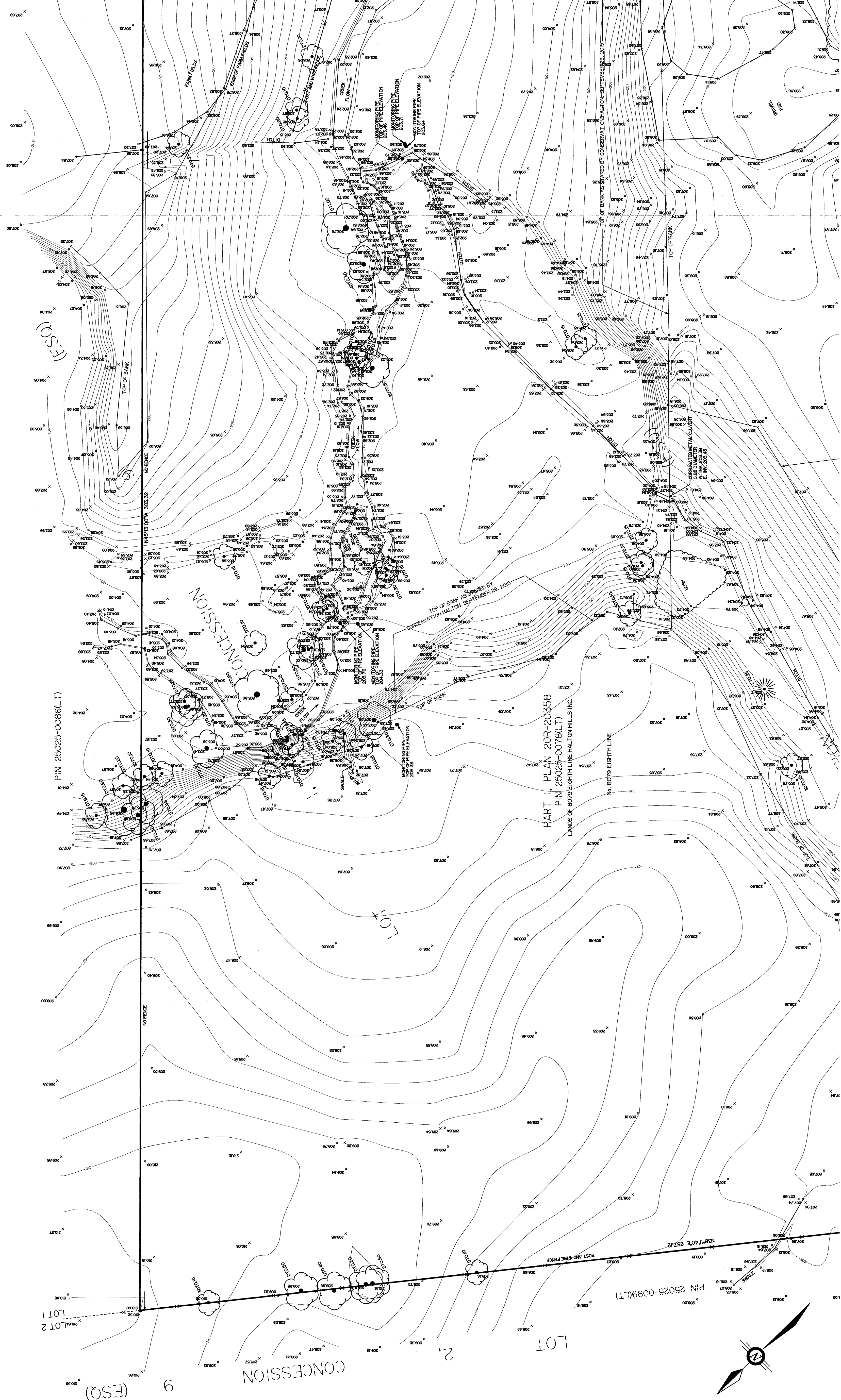
INCLUDING BUT NOT LIMITED TO NATURAL GAS,
BELL CANADA, HYDRO, SANITARY AND STORM
SEWERS MUST BE LOCATED BY THE RESPECTIVE
UTILITY BEFORE CONSTRUCTION OR RECONSTRUCTION
OF ANY PROJECT.

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DETERMINE SIZES, LOCATIONS AND DEPTHS.
OTHER BURIED UTILITIES MAY EXIST WHICH ARE NOT
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Plot Scale: 1"=1'	File No. 1603-2GRID
Drawing Scale: 1"=500'	Sheet 3 OF 4

SKETCH ILLUSTRATING TOPOGRAPHIC DETAIL



SHEET 1 OF 4
HODERO HOLDINGS LTD.- 8079 EIGHTH LINE

SHEET 1 OF 4
HODERQ HOLDINGS LTD - 8079 EIGHTH LINE

[illegible]

SITE DATA:
LEGAL DESCRIPTION:
PART OF LOT 1, CONFESSION 9 (E50)
TOWNSHIP 44 NORTH
RANGE 10 EAST
COUNTY OF HALTON
REGINA, MANITOBA
PIN: 25025-0078 (L17)

REGISTERED EASEMENTS:
SUBJECT TO - NONE

PARCEL AREA: 19.075 ha.

CURRENT OWNER: 8079 E (8TH LINE) HALTON HILLS INC.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:
1. THE FIELD WORK ON THIS SKETCH WAS COMPLETED ON THE
21st DAY OF MAY, 2019.

C
G

JUNE 7, 2019

DATE _____

DAN C. DOLLIVER
Ontario Land Surveyor

NOTE:

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b) THIS SKETCH IS PROTECTED BY COPYRIGHT ©

LEGEND

UP	UTILITY POLE
AP	ANCHOR POLE
LP	LIGHT POLE

TS	TRAFFIC SIGNAL
CB	CATCH BASIN
MH	MANHOLE

WV	"	"	WATER VALVE
ESQ	"	"	GEOGRAPHIC TOWNSHIP OF E
CT 0.10	"	"	CONIFEROUS TREE 0.10 DIAM

DT 0.10 "

NOTES

1) BEARINGS SHOWN HEREON ARE GRID BEARINGS AND ARE DERIVED FROM NETWORK REAL TIME GPS OBSERVATIONS AND REFERRED TO THE UTM PROJECTION ZONE 17, NAD83/CSRS 2010

TO A COMMON BASE AS REQUIRED)

METRIC

METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.

ATUM

TIME GPS OBSERVATIONS ON PERMANENT GPS STATIONS, DATUM IS KNOWN AS CANADIAN GEOCENTRIC 1928 (CGVD28), HYBRIDIZED AS HEIGHT-TEMP 2001- (ALSO KNOWN AS HT2 OR HT2001).

L DATUM
(2010)

N
TRANSVERSE MERCATOR- UTM ZONE 17

SCALE FACTOR

TOWN IN SERVICES

GAS,
RM
CTIVE
AVATION

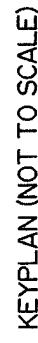
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CONFESSION

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HODERO HOLDINGS LTD.- 8079 EIGHTH LINE

VERTICAL DATUM
 ELEVATIONS BELOW ARE GEODETIC AND ARE DERIVED FROM
 NETWORK REAL TIME GPS OBSERVATION ON PERMANENT GPS
 REFERENCE STATION. DATUM IS KNOWN AS CANADIAN GEODETIC
 VERTICAL DATUM 1928 (CGVD28). HYBRIDIZED AS HEIGHT-
 TRANSFER SYSTEM 2000 (ULS0) KNOWN AS HTZ (AS HT2000)

HORIZONTAL DATUM
 NAD 83 (CGRS2011)

PROJECTION
 UNIVERSAL TRANSVERSE MERCATOR- UTM ZONE 17

COMBINED SCALE FACTOR
 0.99966247

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DOLLIVER SURVEYING INC.
ONTARIO LAND SURVEYOR
 54 MILL STREET EAST
 HALTON HILLS (ACTON), ONTARIO L7J 1H3
 TEL (519) 863-2502
 E-mail: survey@dolliver.com



Appendix B



Project Number: 19-040-101

2020-01-03

Mr. Glen Hansen
8079 Eighth Line, P.O. Box 36
Halton Hills, Ontario
L9T 2Y3

**RE: Sampling and Analysis Plan
 Phase Two Environmental Site Assessment
 8079 Eighth Line, Halton Hills, ON**

1. Introduction

DS Consultants Limited (DS) is pleased to present the Sampling and Analysis Plan (SAP) for the proposed Phase Two Environmental Site Assessment of 8079 Eighth Line, Halton Hills, ON , (the Site). The purpose of the proposed Phase Two ESA program is to assess the current subsurface environmental conditions in support of the proposed redevelopment of the Site.

The Phase Two ESA will involve intrusive investigation in the areas determined in the Site visit to be Areas of Potential Environmental Concern (APECs), and will be completed in general accordance with O.Reg 153/04. Based on the findings of the field and laboratory analyses, a Phase Two ESA report will be prepared.

2. Background

Based on the Phase One Environmental Site Assessment completed by DS in November 2019, it is DS's understanding that the Site is a 19.075 hectare parcel of land which is currently used for mixed agricultural purposes. The first developed use of the Site is interpreted to be Agricultural based on the findings of the Phase One ESA. Two (2) potentially contaminating activities were identified on the Phase One Property which are considered to be contributing to Areas of Potential Environmental Concern (APECs) on the Phase Two Property. A summary of the APECs identified, the potential contaminants of concern, and the media potentially impacted is presented in Table 1 below:

**Table 1: Areas of Potential Environmental Concern**

Area of Potential Environmental Concern	Location of Area of Potential Environmental Concern on Phase One Property	Potentially Contaminating Activity	Location of PCA (on-site or off-site)	Contaminants of Potential Concern	Media Potentially Impacted (Ground water, soil and/or sediment)
APEC-1	Northern portion of Site	PCA 40: Pesticides (including herbicides, fungicides and anti-fouling agents) manufacturing, processing, bulk storage and large-scale application -Historical presence of Orchard On-Site	On Site	Metals, As, Sb, Se, CN, OC Pesticides	Soil
APEC- 2	Vicinity of former site buildings	PCA 30: Importation of Fill Material of Unknown Quality	On Site	PHCs, VOCs, BTEX, Metals, As, Sb, Se, B-HWS, CN-, EC, Cr (VI), Hg, low or high pH, SAR, PAHs	Soil

Notes:

1. PHC (F1-F4) = Petroleum Hydrocarbons in the F1-F4 fraction ranges
2. VOCs = Volatile Organic Compounds
3. PAHs = Polycyclic Aromatic Hydrocarbons
1. PCBs = Polychlorinated Biphenyls

3. Site Investigation Program

The Site Investigation Program will be completed as follows:

- Public and private underground utilities and services will be cleared prior to commencement of intrusive investigation activities;
- A Health and Safety Plan will be prepared and all work will be executed safely;
- Six (6) topsoil samples will be collected from within APEC-1 to assess the topsoil quality in the vicinity of the former orchard on-site;
- Seven (7) test pits will be advanced to a maximum depth of 3.1 mbgs within APEC-2, or until native soil is encountered, whichever is reached first. The soil profile from each test pit will be logged in the field and samples will be screened for total organic vapours (TOV) with a photoionization detector (PID) and combustible gas detector (CGD). The location of



the test pits will be selected to investigate any APECs identified during the Phase One ESA, as well as to delineate the horizontal and vertical extents of relevant parameters of concern;

- Based on field screening and visual/olfactory observations, worst-case/representative soil samples from the boreholes will be submitted for laboratory testing of relevant parameters of concern;
- Soil samples will be submitted for chemical analysis by a CALA laboratory in accordance with the Ontario MOECC standards and requirements of O.Reg. 153/04 under the Environmental Protection Act.

All field equipment is to be calibrated at the start of each field day, in accordance with DS's Standard Operating Procedures (SOPs). Clean, disposable Nitrile™ gloves will be used at each sampling interval to reduce the risk of cross contamination.

The proposed analytical program is outlined below (proposed program subject to change as a result of site observations/findings). All soil and groundwater sampling will be carried out in accordance with DS's SOPs.

Soils:

- Six (6) samples will be collected from within APEC-1 and submitted for analysis of metals and inorganics and organochlorine pesticides
- Five (5) samples will be collected from within APEC-2 for analysis of metals and inorganics. Three (3) additional samples will be submitted for analysis of petroleum hydrocarbons (PHCs), volatile organic compounds (VOCs) and polycyclic aromatic hydrocarbons (PAHs)

One quality control/quality assurance (QAQC) sample will be submitted for analysis per ten (10) samples analyzed in accordance with O.Reg. 153/04.

Following receipt of all of the results, a report in accordance with O.Reg. 153/04 will be prepared.

It is noted that if the Phase Two ESA reveals parameter concentrations greater than the applicable standards set out in *Ontario Regulation 153/04*, then additional work (i.e., supplemental delineation, additional drilling, sampling, analysis, and/or site remediation activities) will be deemed necessary prior to RSC filing, should an RSC be required. The costs for any additional work, if necessary, are beyond the current scope of work.

The SAP was created based on the request to complete a Phase Two ESA in support of the proposed redevelopment of the Site. The SAP was compiled to collect data to provide information on soil quality in each APEC.



DS CONSULTANTS LTD.

Geotechnical ♦ Environmental ♦ Materials ♦ Hydrogeology

Additional delineation may be required following the implementation of this SAP to meet the requirements of O.Reg. 153/04 which requires delineation of all areas where concentrations are above the applicable SCS such as in the following conditions:

- Unexpected contamination not previously discovered, or not related to identified APECs, is discovered which will require further delineation to identify source(s); and
- If the sampling results indicate that the soil and/or groundwater impacts are deeper than initially expected.

We trust that this Sampling and Analysis Plan meets the objectives of the Client. If further assistance is required on this matter please do not hesitate to contact the undersigned.

Yours Very Truly,

DS Consultants Ltd.

Patrick Fioravanti, B.Sc., P.Geo.
Manager - Environmental



Appendix C

PROJECT: Phase Two Environmental Site Assessment								DRILLING DATA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kNm ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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DS SOIL LOG 19-040-101 TEST PIT LOGS.GPJ DS.GDT 6/2/20

PROJECT: Phase Two Environmental Site Assessment								DRILLING DATA												
CLIENT: Mr. Glen Hansen								Method: Excavator												
PROJECT LOCATION: 8079 8th Line, Milton, ON								Diameter:				REF. NO.: 19-040-101								
DATUM: Geodetic								Date: May/27/2020				ENCL NO.: 2								
BOREHOLE LOCATION: Refer to Figure 5																				
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT				PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kNm ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)			
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)				W _p W W _L								
								20 40 60 80 100				10 20 30								
								○ UNCONFINED + FIELD VANE & Sensitivity ● QUICK TRIAXIAL x LAB VANE												
0.0	TOPSOIL: trace rootlets, dark brown, moist.																Parameter Analysed			
0.2	SANDY SILT: trace clay, brown, moist.		1	GRAB																
0.8	SANDY SILT TILL: trace clay and gravel, brown moist.		2	GRAB																
1.5	END OF TEST PIT: Notes: 1) Test pit dry upon completion																			

PROJECT: Phase Two Environmental Site Assessment									DRILLING DATA									
CLIENT: Mr. Glen Hansen									Method: Excavator									
PROJECT LOCATION: 8079 8th Line, Milton, ON									Diameter:									
DATUM: Geodetic									Date: May/27/2020									
BOREHOLE LOCATION: Refer to Figure 5									REF. NO.: 19-040-101 ENCL NO.: 3									
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)					W _p W W _L WATER CONTENT (%)					
								20 40 60 80 100					10 20 30					
0.0	FILL: gravelly sand, trace asphalt, dark brown, moist.		1	GRAB												Parameter Analysed		
0.5	CLAYEY SILT: disturbed native, brown, moist.		2	GRAB												M&I, PHCs, VOCs, PAHs		
0.7	CLAYEY SILT TILL: sandy, brown, moist.		3	GRAB												PHC F2-F4, PAHs		
1.8	END OF TEST PIT: Notes: 1) Test pit dry upon completion																	

GROUNDWATER ELEVATIONS
Measurement 1st 2nd 3rd 4th

GRAPH NOTES + 3, x 3: Numbers refer to Sensitivity ○ s=3% Strain at Failure

DS SOIL LOG 19-040-101 TEST PIT LOGS.GPJ DS.GDT 6/2/20

PROJECT: Phase Two Environmental Site Assessment								DRILLING DATA													
CLIENT: Mr. Glen Hansen								Method: Excavator													
PROJECT LOCATION: 8079 8th Line, Milton, ON								Diameter:				REF. NO.: 19-040-101									
DATUM: Geodetic								Date: May/27/2020				ENCL NO.: 4									
BOREHOLE LOCATION: Refer to Figure 5																					
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			POCKET PEN (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)			
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)					WATER CONTENT (%)								
								20 40 60 80 100					W _P W W _L								
								○ UNCONFINED + FIELD VANE & Sensitivity													
								● QUICK TRIAXIAL × LAB VANE													
								20 40 60 80 100					10 20 30						GR SA SI CL		
0.0	FILL: gravel, some asphalt and sand, trace rootlets, dark brown, moist.		1	GRAB													Parameter Analysed				
0.6	CLAYEY SILT: disturbed native, brown, moist.		2	GRAB													M&I, PHCs, VOCs, PAHs				
0.9	CLAYEY SILT TILL: sandy, brown, moist.		3	GRAB													PHC F2-F4, PAHs				
1.8	END OF TEST PIT: Notes: 1) Test pit dry upon completion																				



PROJECT: Phase Two Environmental Site Assessment
CLIENT: Mr. Glen Hansen
PROJECT LOCATION: 8079 8th Line, Milton, ON
DATUM: Geodetic
BOREHOLE LOCATION: Refer to Figure 5

DRILLING DATA
Method: Excavator
Diameter:
Date: May/27/2020
REF. NO.: 19-040-101
ENCL NO.: 5

SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kN/m ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)					W _p W W _L					

DS SOIL LOG 19-040-101 TEST PIT LOGS.GPJ DS.GDT 6/2/20

GROUNDWATER ELEVATIONS

Measurement 1st 2nd 3rd 4th

GRAPH NOTES

+³, ×³: Numbers refer to Sensitivity

○ s=3% Strain at Failure

PROJECT: Phase Two Environmental Site Assessment								DRILLING DATA													
CLIENT: Mr. Glen Hansen								Method: Excavator													
PROJECT LOCATION: 8079 8th Line, Milton, ON								Diameter:						REF. NO.: 19-040-101							
DATUM: Geodetic								Date: May/27/2020						ENCL NO.: 6							
BOREHOLE LOCATION: Refer to Figure 5																					
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kNm ³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)			
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)					WATER CONTENT (%)								
								20 40 60 80 100					W _P W W _L								
								○ UNCONFINED + FIELD VANE & Sensitivity													
								● QUICK TRIAXIAL × LAB VANE													
								20 40 60 80 100					10 20 30						GR SA SI CL		
0.0	FILL:silty sand, some gravel, trace brick, brown, moist.		1	GRAB													Parameter Analysed				
0.5	CLAYEY SILT: disturbed native, brown, moist.		2	GRAB																	
0.8	CLAYEY SILT: sandy, brown, moist.		3	GRAB																	
1.5	END OF TEST PIT: Notes: 1) Test pit dry upon completion																				

PROJECT: Phase Two Environmental Site Assessment										DRILLING DATA									
CLIENT: Mr. Glen Hansen										Method: Excavator									
PROJECT LOCATION: 8079 8th Line, Milton, ON										Diameter:									
DATUM: Geodetic										Date: May/27/2020									
BOREHOLE LOCATION: Refer to Figure 5										REF. NO.: 19-040-101									
										ENCL NO.: 7									
SOIL PROFILE			SAMPLES			GROUND WATER CONDITIONS	ELEVATION	DYNAMIC CONE PENETRATION RESISTANCE PLOT					PLASTIC LIMIT NATURAL MOISTURE CONTENT LIQUID LIMIT			POCKET PEN. (Cu) (kPa)	NATURAL UNIT WT (kNm ⁻³)	METHANE AND GRAIN SIZE DISTRIBUTION (%)	
(m) ELEV DEPTH	DESCRIPTION	STRATA PLOT	NUMBER	TYPE	"N" BLOWS 0.3 m			SHEAR STRENGTH (kPa)					WATER CONTENT (%)						
								○ UNCONFINED + FIELD VANE & Sensitivity ● QUICK TRIAXIAL × LAB VANE											
0.0	TOPSOIL: trace rootlets, dark brown, moist.							20	40	60	80	100							
0.2	FILL: silty sand, trace rootlets and brick, brown, moist.		1	GRAB															
	clayey silt, trace brick, brown, moist		2	GRAB															
0.8	CLAYEY SILT TILL: sandy, trace gravel, brown, moist.																		
			3	GRAB															
1.5	END OF TEST PIT: Notes: 1) Test pit dry upon completion																		



Appendix D



FINAL REPORT

CA14639-MAY20 R1

19-040-101, 8079 8th Line

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Rick Fioravanti

Telephone 647-234-5131

Facsimile 905-264-2685

Email rick.fioravanti@dsconsultants.ca

Project 19-040-101, 8079 8th Line

Order Number

Samples soil (7)

LABORATORY DETAILS

Project Specialist Jill Campbell, B.Sc.,GISAS

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 2165

Facsimile 705-652-6365

Email jill.campbell@sgs.com

SGS Reference CA14639-MAY20

Received 05/15/2020

Approved 05/27/2020

Report Number CA14639-MAY20 R1

Date Reported 05/27/2020

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.

The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Temperature of Sample upon Receipt: 6 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: NA

SIGNATORIES

Jill Campbell, B.Sc.,GISAS





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FINAL REPORT

CA14639-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 8th Line

Project Manager: Rick Fioravanti

Samplers: Aidan Doak

PACKAGE: REG153 - Hydrides (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

				Sample Number	8	9	10	11	12	13	14
				Sample Name	TS20-1	TS20-2	TS20-3	TS20-4	TS20-5	TS20-6	Dup-S1
				Sample Matrix	soil	soil	soil	soil	soil	soil	soil
				Sample Date	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result
Hydrides										
Antimony	µg/g	0.8	1.3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Arsenic	µg/g	0.5	18	3.7	3.9	4.0	4.8	4.5	4.4	4.3
Selenium	µg/g	0.7	1.5	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7

PACKAGE: REG153 - Metals and Inorganics (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

				Sample Number	8	9	10	11	12	13	14
				Sample Name	TS20-1	TS20-2	TS20-3	TS20-4	TS20-5	TS20-6	Dup-S1
				Sample Matrix	soil	soil	soil	soil	soil	soil	soil
				Sample Date	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result
Metals and Inorganics										
Moisture Content	%	-		21.7	19.3	31.8	23.4	18.3	17.8	18.2
Barium	µg/g	0.1	220	69	62	71	71	92	83	83
Beryllium	µg/g	0.02	2.5	0.60	0.58	0.51	0.66	0.77	0.75	0.73
Boron	µg/g	1	36	4	3	4	5	5	5	5
Cadmium	µg/g	0.02	1.2	0.22	0.22	0.19	0.21	0.28	0.17	0.21
Chromium	µg/g	0.5	70	21	20	17	20	25	26	25
Cobalt	µg/g	0.01	21	11	10	8.0	10	14	13	13
Copper	µg/g	0.1	92	17	22	21	31	21	24	23
Lead	µg/g	0.1	120	14	13	14	15	20	18	18
Molybdenum	µg/g	0.1	2	0.4	0.4	0.4	0.4	0.6	0.5	0.4
Nickel	µg/g	0.5	82	19	20	17	21	23	25	25
Silver	µg/g	0.05	0.5	0.08	< 0.05	< 0.05	< 0.05	0.05	< 0.05	< 0.05
Thallium	µg/g	0.02	1	0.15	0.14	0.11	0.14	0.17	0.18	0.18



FINAL REPORT

CA14639-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 8th Line

Project Manager: Rick Fioravanti

Samplers: Aidan Doak

PACKAGE: REG153 - Metals and Inorganics (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number	8	9	10	11	12	13	14
Sample Name	TS20-1	TS20-2	TS20-3	TS20-4	TS20-5	TS20-6	Dup-S1
Sample Matrix	soil	soil	soil	soil	soil	soil	soil
Sample Date	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result
Metals and Inorganics (continued)										
Uranium	µg/g	0.002	2.5	0.56	0.54	0.63	0.65	0.65	0.64	0.60
Vanadium	µg/g	3	86	31	28	24	29	37	37	36
Zinc	µg/g	0.7	290	59	55	61	63	75	77	74
Water Soluble Boron	µg/g	0.5		< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5

PACKAGE: REG153 - Organochlorine Pests (OCs)

(SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number	8	9	10	11	12	13	14
Sample Name	TS20-1	TS20-2	TS20-3	TS20-4	TS20-5	TS20-6	Dup-S1
Sample Matrix	soil	soil	soil	soil	soil	soil	soil
Sample Date	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result
Organochlorine Pests (OCs)										
Aldrin	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
alpha-Chlordane	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
gamma-Chlordane	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chlordane (total)	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDD	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
pp-DDD	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
DDD (total)	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o,p-DDE	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
pp-DDE	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
DDE (total)	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
op-DDT	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02



FINAL REPORT

CA14639-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 8th Line

Project Manager: Rick Fioravanti

Samplers: Aidan Doak

PACKAGE: REG153 - Organochlorine Pests (OCs)

(SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number	8	9	10	11	12	13	14
Sample Name	TS20-1	TS20-2	TS20-3	TS20-4	TS20-5	TS20-6	Dup-S1
Sample Matrix	soil	soil	soil	soil	soil	soil	soil
Sample Date	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result
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Organochlorine Pests (OCs) (continued)

pp-DDT	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
DDT (total)	µg/g	0.05	1.4	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dieldrin	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
gamma-BHC	µg/g	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Endosulfan I	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan II	µg/g	0.02		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Endosulfan (total)	µg/g	0.04	0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Endrin	µg/g	0.04	0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
Heptachlor	µg/g	0.01	0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Heptachlor epoxide	µg/g	0.01	0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobenzene	µg/g	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachlorobutadiene	µg/g	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Hexachloroethane	µg/g	0.01	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Methoxychlor	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05



FINAL REPORT

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Client: DS Consultants

Project: 19-040-101, 8079 8th Line

Project Manager: Rick Fioravanti

Samplers: Aidan Doak

PACKAGE: REG153 - Other (ORP) (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				8	9	10	11	12	13	14
Sample Name				TS20-1	TS20-2	TS20-3	TS20-4	TS20-5	TS20-6	Dup-S1
Sample Matrix				soil	soil	soil	soil	soil	soil	soil
Sample Date				15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020
Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result
Other (ORP)										
Mercury	µg/g	0.05	0.27	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Sodium Adsorption Ratio	---	0.2	2.4	< 0.2	< 0.2	< 0.2	0.4	< 0.2	< 0.2	< 0.2
SAR Calcium	mg/L	0.09		21.3	22.5	25.7	38.5	21.9	25.7	26.0
SAR Magnesium	mg/L	0.02		2.1	2.3	6.9	3.8	3.2	2.8	3.3
SAR Sodium	mg/L	0.15		2.2	2.3	2.7	8.6	1.9	2.1	2.2
Conductivity	mS/cm	0.002	0.57	0.10	0.09	0.17	0.25	0.08	0.10	0.10
pH	pH Units	0.05		6.04	5.91	6.10	7.23	5.88	6.42	6.42
Chromium VI	µg/g	0.2	0.66	0.4	0.4	0.3	0.3	0.3	< 0.2	0.3
Free Cyanide	µg/g	0.05	0.051	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05



FINAL REPORT

CA14639-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 8th Line

Project Manager: Rick Fioravanti

Samplers: Aidan Doak

PACKAGE: REG153 - Pesticides Surrogate (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				8	9	10	11	12	13	14
Sample Name				TS20-1	TS20-2	TS20-3	TS20-4	TS20-5	TS20-6	Dup-S1
Sample Matrix				soil	soil	soil	soil	soil	soil	soil
Sample Date				15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result
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Pesticides Surrogate

Surr Decachlorobiphenyl	Surr Rec %	-		100	112	96	104	105	108	104
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PACKAGE: REG153 - VOC Surrogates (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				8	9	10	11	12	13	14
Sample Name				TS20-1	TS20-2	TS20-3	TS20-4	TS20-5	TS20-6	Dup-S1
Sample Matrix				soil	soil	soil	soil	soil	soil	soil
Sample Date				15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020	15/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result
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VOC Surrogates

Surr TCMX	Surr Rec %	-		80	91	74	82	83	95	86
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EXCEEDANCE SUMMARY

No exceedances are present above the regulatory limit(s) indicated

HOLDING TIME SUMMARY

Sample Name	QC Batch Reference	Sample Number	Sampled	Received	Extracted/ Prepared	Analysed	Holding Time	Approved
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Conductivity

Method: EPA 6010/SM 2510 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

TS20-1	EWL0322-MAY20	8	05/15/2020	05/15/2020	05/20/2020	05/21/2020	06/12/2020	05/21/2020
TS20-2	EWL0322-MAY20	9	05/15/2020	05/15/2020	05/20/2020	05/21/2020	06/12/2020	05/21/2020
TS20-3	EWL0322-MAY20	10	05/15/2020	05/15/2020	05/20/2020	05/21/2020	06/12/2020	05/21/2020
TS20-4	EWL0322-MAY20	11	05/15/2020	05/15/2020	05/20/2020	05/21/2020	06/12/2020	05/21/2020
TS20-5	EWL0322-MAY20	12	05/15/2020	05/15/2020	05/20/2020	05/21/2020	06/12/2020	05/21/2020
TS20-6	EWL0322-MAY20	13	05/15/2020	05/15/2020	05/20/2020	05/21/2020	06/12/2020	05/21/2020
Dup-S1	EWL0322-MAY20	14	05/15/2020	05/15/2020	05/20/2020	05/21/2020	06/12/2020	05/21/2020

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-005

TS20-1	SKA5081-MAY20	8	05/15/2020	05/15/2020	05/15/2020	05/19/2020	05/29/2020	05/20/2020
TS20-2	SKA5081-MAY20	9	05/15/2020	05/15/2020	05/15/2020	05/19/2020	05/29/2020	05/20/2020
TS20-3	SKA5081-MAY20	10	05/15/2020	05/15/2020	05/15/2020	05/19/2020	05/29/2020	05/20/2020
TS20-4	SKA5081-MAY20	11	05/15/2020	05/15/2020	05/15/2020	05/19/2020	05/29/2020	05/20/2020
TS20-5	SKA5081-MAY20	12	05/15/2020	05/15/2020	05/15/2020	05/19/2020	05/29/2020	05/20/2020
TS20-6	SKA5081-MAY20	13	05/15/2020	05/15/2020	05/15/2020	05/19/2020	05/29/2020	05/20/2020
Dup-S1	SKA5081-MAY20	14	05/15/2020	05/15/2020	05/15/2020	05/19/2020	05/29/2020	05/20/2020

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-[ENV]SKA-LAK-AN-012

TS20-1	SKA5107-MAY20	8	05/15/2020	05/15/2020	05/22/2020	05/25/2020	06/14/2020	05/25/2020
TS20-2	SKA5107-MAY20	9	05/15/2020	05/15/2020	05/22/2020	05/25/2020	06/14/2020	05/25/2020
TS20-3	SKA5107-MAY20	10	05/15/2020	05/15/2020	05/22/2020	05/25/2020	06/14/2020	05/25/2020
TS20-4	SKA5107-MAY20	11	05/15/2020	05/15/2020	05/22/2020	05/25/2020	06/14/2020	05/25/2020
TS20-5	SKA5107-MAY20	12	05/15/2020	05/15/2020	05/22/2020	05/25/2020	06/14/2020	05/25/2020
TS20-6	SKA5107-MAY20	13	05/15/2020	05/15/2020	05/22/2020	05/25/2020	06/14/2020	05/25/2020
Dup-S1	SKA5107-MAY20	14	05/15/2020	05/15/2020	05/22/2020	05/25/2020	06/14/2020	05/25/2020

Mercury by CVAAS

Method: EPA 7471A/EPA 245 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-004

TS20-1	EMS0081-MAY20	8	05/15/2020	05/15/2020	05/19/2020	05/20/2020	06/12/2020	05/20/2020
TS20-2	EMS0081-MAY20	9	05/15/2020	05/15/2020	05/19/2020	05/20/2020	06/12/2020	05/20/2020
TS20-3	EMS0081-MAY20	10	05/15/2020	05/15/2020	05/19/2020	05/20/2020	06/12/2020	05/20/2020
TS20-4	EMS0081-MAY20	11	05/15/2020	05/15/2020	05/19/2020	05/20/2020	06/12/2020	05/20/2020
TS20-5	EMS0081-MAY20	12	05/15/2020	05/15/2020	05/19/2020	05/20/2020	06/12/2020	05/20/2020
TS20-6	EMS0081-MAY20	13	05/15/2020	05/15/2020	05/19/2020	05/20/2020	06/12/2020	05/20/2020
Dup-S1	EMS0081-MAY20	14	05/15/2020	05/15/2020	05/19/2020	05/20/2020	06/12/2020	05/20/2020

Metals in aqueous samples - ICP-OES

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-003

HOLDING TIME SUMMARY

Sample Name	QC Batch Reference	Sample Number	Sampled	Received	Extracted/ Prepared	Analysed	Holding Time	Approved
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Metals in aqueous samples - ICP-OES (continued)

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-003

TS20-1	ESG0051-MAY20	8	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020
TS20-2	ESG0051-MAY20	9	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020
TS20-3	ESG0051-MAY20	10	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020
TS20-4	ESG0051-MAY20	11	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020
TS20-5	ESG0051-MAY20	12	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020
TS20-6	ESG0051-MAY20	13	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020
Dup-S1	ESG0051-MAY20	14	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020

Metals in Soil - Aqua-regia/ICP-MS

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-005

TS20-1	EMS0081-MAY20	8	05/15/2020	05/15/2020	05/19/2020	05/20/2020	11/11/2020	05/20/2020
TS20-2	EMS0081-MAY20	9	05/15/2020	05/15/2020	05/19/2020	05/20/2020	11/11/2020	05/20/2020
TS20-3	EMS0081-MAY20	10	05/15/2020	05/15/2020	05/19/2020	05/20/2020	11/11/2020	05/20/2020
TS20-4	EMS0081-MAY20	11	05/15/2020	05/15/2020	05/19/2020	05/20/2020	11/11/2020	05/20/2020
TS20-5	EMS0081-MAY20	12	05/15/2020	05/15/2020	05/19/2020	05/20/2020	11/11/2020	05/20/2020
TS20-6	EMS0081-MAY20	13	05/15/2020	05/15/2020	05/19/2020	05/20/2020	11/11/2020	05/20/2020
Dup-S1	EMS0081-MAY20	14	05/15/2020	05/15/2020	05/19/2020	05/20/2020	11/11/2020	05/20/2020

Moisture

Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

TS20-1	GCM0243-MAY20	8	05/15/2020	05/15/2020	05/19/2020	05/20/2020	07/14/2020	05/20/2020
TS20-2	GCM0243-MAY20	9	05/15/2020	05/15/2020	05/19/2020	05/20/2020	07/14/2020	05/20/2020
TS20-3	GCM0243-MAY20	10	05/15/2020	05/15/2020	05/19/2020	05/20/2020	07/14/2020	05/20/2020
TS20-4	GCM0243-MAY20	11	05/15/2020	05/15/2020	05/19/2020	05/20/2020	07/14/2020	05/20/2020
TS20-5	GCM0243-MAY20	12	05/15/2020	05/15/2020	05/19/2020	05/20/2020	07/14/2020	05/20/2020
TS20-6	GCM0243-MAY20	13	05/15/2020	05/15/2020	05/19/2020	05/20/2020	07/14/2020	05/20/2020
Dup-S1	GCM0243-MAY20	14	05/15/2020	05/15/2020	05/19/2020	05/20/2020	07/14/2020	05/20/2020

Pesticides

Method: EPA 3541/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-018

TS20-1	GCM0238-MAY20	8	05/15/2020	05/15/2020	05/19/2020	05/22/2020	06/24/2020	05/27/2020
TS20-2	GCM0238-MAY20	9	05/15/2020	05/15/2020	05/19/2020	05/22/2020	06/24/2020	05/27/2020
TS20-3	GCM0238-MAY20	10	05/15/2020	05/15/2020	05/19/2020	05/22/2020	06/24/2020	05/27/2020
TS20-4	GCM0238-MAY20	11	05/15/2020	05/15/2020	05/19/2020	05/22/2020	06/24/2020	05/27/2020
TS20-5	GCM0238-MAY20	12	05/15/2020	05/15/2020	05/19/2020	05/22/2020	06/24/2020	05/27/2020
TS20-6	GCM0238-MAY20	13	05/15/2020	05/15/2020	05/19/2020	05/22/2020	06/24/2020	05/27/2020
Dup-S1	GCM0238-MAY20	14	05/15/2020	05/15/2020	05/19/2020	05/22/2020	06/24/2020	05/27/2020

pH

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-001

HOLDING TIME SUMMARY

Sample Name	QC Batch Reference	Sample Number	Sampled	Received	Extracted/ Prepared	Analysed	Holding Time	Approved
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pH (continued)

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-001

TS20-1	ARD0053-MAY20	8	05/15/2020	05/15/2020	05/19/2020	05/19/2020	06/14/2020	05/19/2020
TS20-2	ARD0053-MAY20	9	05/15/2020	05/15/2020	05/19/2020	05/19/2020	06/14/2020	05/19/2020
TS20-3	ARD0053-MAY20	10	05/15/2020	05/15/2020	05/19/2020	05/19/2020	06/14/2020	05/19/2020
TS20-4	ARD0053-MAY20	11	05/15/2020	05/15/2020	05/19/2020	05/19/2020	06/14/2020	05/19/2020
TS20-5	ARD0053-MAY20	12	05/15/2020	05/15/2020	05/19/2020	05/19/2020	06/14/2020	05/19/2020
TS20-6	ARD0053-MAY20	13	05/15/2020	05/15/2020	05/19/2020	05/19/2020	06/14/2020	05/19/2020
Dup-S1	ARD0053-MAY20	14	05/15/2020	05/15/2020	05/19/2020	05/19/2020	06/14/2020	05/19/2020

Sodium adsorption ratio (SAR)

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-[ENV]JARD-LAK-AN-021

TS20-1	ESG0051-MAY20	8	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020
TS20-2	ESG0051-MAY20	9	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020
TS20-3	ESG0051-MAY20	10	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020
TS20-4	ESG0051-MAY20	11	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020
TS20-5	ESG0051-MAY20	12	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020
TS20-6	ESG0051-MAY20	13	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020
Dup-S1	ESG0051-MAY20	14	05/15/2020	05/15/2020	05/20/2020	05/20/2020	11/11/2020	05/20/2020

Water Soluble Boron

Method: O.Reg. 153/04 | Internal ref.: ME-CA-[ENV] SPE-LAK-AN-003

TS20-1	ESG0053-MAY20	8	05/15/2020	05/15/2020	05/20/2020	05/21/2020	11/11/2020	05/21/2020
TS20-2	ESG0053-MAY20	9	05/15/2020	05/15/2020	05/20/2020	05/21/2020	11/11/2020	05/21/2020
TS20-3	ESG0053-MAY20	10	05/15/2020	05/15/2020	05/20/2020	05/21/2020	11/11/2020	05/21/2020
TS20-4	ESG0053-MAY20	11	05/15/2020	05/15/2020	05/20/2020	05/21/2020	11/11/2020	05/21/2020
TS20-5	ESG0053-MAY20	12	05/15/2020	05/15/2020	05/20/2020	05/21/2020	11/11/2020	05/21/2020
TS20-6	ESG0053-MAY20	13	05/15/2020	05/15/2020	05/20/2020	05/21/2020	11/11/2020	05/21/2020
Dup-S1	ESG0053-MAY20	14	05/15/2020	05/15/2020	05/20/2020	05/21/2020	11/11/2020	05/21/2020



FINAL REPORT

CA14639-MAY20 R1

QC SUMMARY

Conductivity
Method: EPA 6010/SM 2510 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0322-MAY20	mS/cm	0.002	<0.002	0	10	99	90	110	NA		

Cyanide by SFA
Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Free Cyanide	SKA5081-MAY20	µg/g	0.05	<0.05	ND	20	105	80	120	92	75	125

Hexavalent Chromium by SFA
Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-IENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA5107-MAY20	ug/g	0.2	<0.2	20	20	95	80	120	89	75	125



FINAL REPORT

CA14639-MAY20 R1

QC SUMMARY

Mercury by CVAAS

Method: EPA 7471A/EPA 245 | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury	EMS0081-MAY20	µg/g	0.05	<0.05	ND	20	107	80	120	92	70	130

Metals in aqueous samples - ICP-OES

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-IENVISPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
SAR Calcium	ESG0051-MAY20	mg/L	0.09	<0.09	2	20	97	80	120	88	70	130
SAR Magnesium	ESG0051-MAY20	mg/L	0.02	<0.02	2	20	100	80	120	92	70	130
SAR Sodium	ESG0051-MAY20	mg/L	0.15	<0.15	4	20	96	80	120	90	70	130



FINAL REPORT

CA14639-MAY20 R1

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS
Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0081-MAY20	ug/g	0.05	<0.05	ND	20	103	70	130	107	70	130
Arsenic	EMS0081-MAY20	µg/g	0.5	<0.5	4	20	104	70	130	103	70	130
Barium	EMS0081-MAY20	ug/g	0.1	<0.1	5	20	106	70	130	99	70	130
Beryllium	EMS0081-MAY20	µg/g	0.02	<0.02	0	20	101	70	130	100	70	130
Boron	EMS0081-MAY20	µg/g	1	<1	1	20	106	70	130	100	70	130
Cadmium	EMS0081-MAY20	µg/g	0.02	<0.02	1	20	99	70	130	110	70	130
Cobalt	EMS0081-MAY20	µg/g	0.01	<0.01	2	20	101	70	130	112	70	130
Chromium	EMS0081-MAY20	µg/g	0.5	<0.5	7	20	101	70	130	114	70	130
Copper	EMS0081-MAY20	µg/g	0.1	<0.1	18	20	101	70	130	108	70	130
Molybdenum	EMS0081-MAY20	µg/g	0.1	<0.1	1	20	96	70	130	111	70	130
Nickel	EMS0081-MAY20	ug/g	0.5	<0.5	6	20	101	70	130	113	70	130
Lead	EMS0081-MAY20	µg/g	0.1	<0.1	2	20	102	70	130	100	70	130
Antimony	EMS0081-MAY20	µg/g	0.8	<0.8	ND	20	101	70	130	118	70	130
Selenium	EMS0081-MAY20	µg/g	0.7	<0.7	ND	20	106	70	130	108	70	130
Thallium	EMS0081-MAY20	µg/g	0.02	<0.02	10	20	105	70	130	108	70	130
Uranium	EMS0081-MAY20	µg/g	0.002	<0.002	12	20	100	70	130	97	70	130
Vanadium	EMS0081-MAY20	µg/g	3	<3	2	20	100	70	130	110	70	130
Zinc	EMS0081-MAY20	µg/g	0.7	<0.7	1	20	101	70	130	104	70	130



FINAL REPORT

CA14639-MAY20 R1

QC SUMMARY

Pesticides

Method: EPA 3541/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-018

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Aldrin	GCM0238-MAY20	µg/g	0.05	< 0.05	ND	40	90	50	140	82	50	140
alpha-Chlordane	GCM0238-MAY20	µg/g	0.02	< 0.02	ND	40	90	50	140	85	50	140
Dieldrin	GCM0238-MAY20	µg/g	0.05	< 0.05	ND	40	106	50	140	96	50	140
Endosulfan I	GCM0238-MAY20	µg/g	0.02	< 0.02	ND	40	95	50	140	82	50	140
Endosulfan II	GCM0238-MAY20	µg/g	0.02	< 0.02	ND	40	87	50	140	81	50	140
Endrin	GCM0238-MAY20	µg/g	0.04	< 0.04	ND	40	91	50	140	88	50	140
gamma-BHC	GCM0238-MAY20	µg/g	0.01	< 0.01	ND	40	85	50	140	78	50	140
gamma-Chlordane	GCM0238-MAY20	µg/g	0.02	< 0.02	ND	40	88	50	140	82	50	140
Heptachlor epoxide	GCM0238-MAY20	µg/g	0.01	< 0.01	ND	40	90	50	140	85	50	140
Heptachlor	GCM0238-MAY20	µg/g	0.01	< 0.01	ND	40	90	50	140	85	50	140
Hexachlorobenzene	GCM0238-MAY20	µg/g	0.01	< 0.01	ND	40	83	50	140	74	50	140
Hexachlorobutadiene	GCM0238-MAY20	µg/g	0.01	< 0.01	ND	40	76	50	140	67	50	140
Hexachloroethane	GCM0238-MAY20	µg/g	0.01	< 0.01	ND	40	89	50	140	80	50	140
Methoxychlor	GCM0238-MAY20	µg/g	0.05	< 0.05	ND	40	93	50	140	94	50	140
o,p-DDD	GCM0238-MAY20	µg/g	0.02	< 0.02	ND	40	86	50	140	85	50	140
o,p-DDE	GCM0238-MAY20	µg/g	0.02	< 0.02	ND	40	93	50	140	85	50	140
op-DDT	GCM0238-MAY20	µg/g	0.02	< 0.02	ND	40	82	50	140	76	50	140
pp-DDD	GCM0238-MAY20	µg/g	0.02	< 0.02	ND	40	87	50	140	93	50	140
pp-DDE	GCM0238-MAY20	µg/g	0.02	< 0.02	ND	40	92	50	140	84	50	140
pp-DDT	GCM0238-MAY20	µg/g	0.02	< 0.02	ND	40	93	50	140	85	50	140



FINAL REPORT

CA14639-MAY20 R1

QC SUMMARY

pH
Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	ARD0053-MAY20	pH Units	0.05		0	20	100	80	120			

Water Soluble Boron
Method: O.Reg. 153/04 | Internal ref.: ME-CA-IENVI SPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Water Soluble Boron	ESG0053-MAY20	µg/g	0.5	<0.5	ND	20	99	80	120	89	70	130

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.

RL Reporting Limit.

↑ Reporting limit raised.

↓ Reporting limit lowered.

NA The sample was not analysed for this analyte

ND Non Detect

Samples analysed as received. Solid samples expressed on a dry weight basis. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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-- End of Analytical Report --



Environment, Health & Safety

Request for Laboratory Services and CHAIN OF CUSTODY

- Lakefield: 185 Concession St., Lakefield, ON K0L 2H0 Phone: 705-652-2000 Fax: 705-652-6365 Web: www.sgs.com/environment
- London: 657 Concession Court, London, ON N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No:

Page 1 of 1

Received By: Scott Lee

Received Date: 05.15.2020 (mm/dd/yy)

Received Time: 17:45 (hr : min)

Received By (signature): [Signature]

Custody Seal Present: ☒ Yes ☐ No

Custody Seal Intact: ☒ Yes ☐ No

Cooling Agent Present: ☒ Yes ☐ No

Temperature Upon Receipt (°C): 6.6, 6.6, 6.6

LAB LIMS #: CA141639-MAT20

REPORT INFORMATION

Company: DS Consultants Ltd

Contact: Rick Foravanli

Address: 6221 Hwy 7, Unit 16,
Vaughan, ON

Phone: 905-294-8393

Fax: _____

Email: rick.foravanli@dsconsultants.ca

☒ (same as Report Information)

Company: _____

Contact: Pavola Derwent

Address: _____

Phone: _____

Email: accounting@dsconsultants.ca

INVOICE INFORMATION

Quotation #: _____

Project #: 19-040-101

☒ Regular TAT (5-7 days)

RUSH TAT (Additional Charges May Apply): ☐ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days

PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION

Specify Due Date: _____

NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

Regulation 153/04:

☒ Table 1 ☐ Res/Park ☐ Soil Texture:

☐ Table 2 ☐ Ind/Com ☐ Coarse

☐ Table 3 ☐ Agri/Other ☐ Medium/

☐ Table _____ ☐ Fine

Other Regulations:

☐ Reg 347/558 (3 Day min TAT)

☐ PMCO ☐ MMR

☐ CCME ☐ Other: _____

☐ MISA _____

Sewer By-Law:

☐ Sanitary

☐ Storm

☐ Municipality: _____

☐ _____

RECORD OF SITE CONDITION (RSC)

☒ YES ☐ NO

SAMPLE IDENTIFICATION

	DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	Metals & Inorganics incl CrVI, CN, Hg, pH, B(HWS), EC, SAR, soil (Cl, Na-water)	Full Metals Suite ICP metals plus B(HWS-soil only) Hg, CrVI	ICP Metals only Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, Pb, Mo, Ni, Se, Ag, Ti, U, V, Zn	PAHs only	SVOCs all incl PAHs, ABNs, CPs	PCBs Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	F1-F4 + BTEX	F1-F4 only no BTEX	VOCs all incl BTEX	BTEX only	Pesticides Organochlorine or specify other	Sewer Use: Specify pkg	Water Characterization Pkg General <input type="checkbox"/> Extended <input type="checkbox"/>	TCCLP Specify tests TCCLP <input type="checkbox"/> BCS <input type="checkbox"/> MSL <input type="checkbox"/> BOP <input type="checkbox"/> BBN <input type="checkbox"/> BPH <input type="checkbox"/>
1	TS20-1	May 15, 2020	10:50	2	Soil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	TS20-2	May 15, 2020	10:55	2	Soil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	TS20-3	May 15, 2020	11:00	2	Soil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
4	TS20-4	May 15, 2020	11:05	2	Soil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	TS20-5	May 15, 2020	11:10	2	Soil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	TS20-6	May 15, 2020	11:15	2	Soil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
7	DUP-S1	May 15, 2020	11:20	2	Soil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
8																			
9																			
10																			
11																			
12																			

Observations/Comments/Special Instructions

Sampled By (NAME): Aidan Doak

Relinquished By (NAME): Aidan Doak

Date of Issue: 13 Oct 2019

Signature: [Signature]

Signature: [Signature]

Date: 05.15.20 (mm/dd/yy)

Date: 05.15.20 (mm/dd/yy)

Date: 05.15.20 (mm/dd/yy)

Date: 05.15.20 (mm/dd/yy)

Pink Copy - Client

Yellow & White Copy - SGS

Note: Submission of samples to SGS is acknowledgment that you have been provided with a copy of the Chain of Custody form and that you have read and understood the terms and conditions of the Chain of Custody form. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.



FINAL REPORT

CA14950-MAY20 R1

19-040-100 8079 8th Line, Milton

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Rick Fioravanti

Telephone 647-234-5131

Facsimile 905-264-2685

Email rick.fioravanti@dsconsultants.ca

Project 19-040-100 8079 8th Line, Milton

Order Number

Samples soil (7)

LABORATORY DETAILS

Project Specialist Brad Moore Hon. B.Sc

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 705-652-2143

Facsimile 705-652-6365

Email brad.moore@sgs.com

SGS Reference CA14950-MAY20

Received 05/27/2020

Approved 05/29/2020

Report Number CA14950-MAY20 R1

Date Reported 05/29/2020

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.

The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 3 degrees C

Cooling Agent Present: Yes

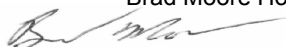
Custody Seal Present: Yes

Chain of Custody Number: N/A

PAH; Samples were diluted due to sample matrix interference. The RL has been raised due to dilution.

SIGNATORIES

Brad Moore Hon. B.Sc



PHC F3 (C16-34) and F4 (C34-50) - Duplicate RPD are outside of acceptance due to sample heterogeneity.

PHC F4G - Duplicate RPD are outside of acceptance due to sample heterogeneity.



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FINAL REPORT

CA14950-MAY20 R1

Client: DS Consultants
Project: 19-040-100 8079 8th Line, Milton
Project Manager: Rick Fioravanti
Samplers: Sarth Sheth

PACKAGE: REG153 - BTEX (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number	10	12	14
Sample Name	TP20-3 S1	TP20-4 S1	TP20-5 S1
Sample Matrix	soil	soil	soil
Sample Date	27/05/2020	27/05/2020	27/05/2020

Parameter	Units	RL	L1	Result	Result	Result
BTEX						
Benzene	µg/g	0.02	0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Toluene	µg/g	0.05	0.2	< 0.05	< 0.05	< 0.05
Xylene (total)	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
m/p-xylene	µg/g	0.05		< 0.05	< 0.05	< 0.05
o-xylene	µg/g	0.05		< 0.05	< 0.05	< 0.05

PACKAGE: REG153 - Hydrides (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number	8	9	10	12	14	16	17
Sample Name	TP20-1 S1	Dup-1	TP20-3 S1	TP20-4 S1	TP20-5 S1	TP20-7 S1	Dup-2
Sample Matrix	soil	soil	soil	soil	soil	soil	soil
Sample Date	27/05/2020	27/05/2020	27/05/2020	27/05/2020	27/05/2020	27/05/2020	27/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result
Hydrides										
Antimony	µg/g	0.8	1.3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Arsenic	µg/g	0.5	18	4.0	4.0	3.3	3.0	3.5	4.7	4.2
Selenium	µg/g	0.7	1.5	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7



FINAL REPORT

CA14950-MAY20 R1

Client: DS Consultants

Project: 19-040-100 8079 8th Line, Milton

Project Manager: Rick Fioravanti

Samplers: Sarth Sheth

PACKAGE: REG153 - Metals and Inorganics (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				8	9	10	12	14	16	17
Sample Name				TP20-1 S1	Dup-1	TP20-3 S1	TP20-4 S1	TP20-5 S1	TP20-7 S1	Dup-2
Sample Matrix				soil	soil	soil	soil	soil	soil	soil
Sample Date				27/05/2020	27/05/2020	27/05/2020	27/05/2020	27/05/2020	27/05/2020	27/05/2020
Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result
Metals and Inorganics										
Moisture Content	%	-		10.6	12.5	3.5	4.2	14.2	10.0	11.4
Barium	µg/g	0.1	220	130	120	55	27	68	89	95
Beryllium	µg/g	0.02	2.5	0.87	0.79	0.32	0.11	0.30	0.45	0.47
Boron	µg/g	1	36	12	9	8	5	8	5	6
Cadmium	µg/g	0.02	1.2	0.55	0.43	0.14	0.28	0.38	0.25	0.28
Chromium	µg/g	0.5	70	25	24	13	10	13	18	19
Cobalt	µg/g	0.01	21	12	12	6.8	5.5	6.9	8.5	8.6
Copper	µg/g	0.1	92	35	36	25	18	26	24	25
Lead	µg/g	0.1	120	42	35	12	17	180	32	31
Molybdenum	µg/g	0.1	2	0.6	0.7	0.6	0.8	0.8	0.4	0.4
Nickel	µg/g	0.5	82	24	24	19	13	15	18	19
Silver	µg/g	0.05	0.5	0.07	0.05	< 0.05	< 0.05	0.06	0.09	0.08
Thallium	µg/g	0.02	1	0.15	0.14	0.09	0.07	0.10	0.12	0.13
Uranium	µg/g	0.002	2.5	0.56	0.52	0.37	0.33	0.59	0.66	0.66
Vanadium	µg/g	3	86	31	32	31	23	21	26	27
Zinc	µg/g	0.7	290	97	92	60	120	100	80	86
Water Soluble Boron	µg/g	0.5		< 0.5		< 0.5	< 0.5	< 0.5	< 0.5	



FINAL REPORT

CA14950-MAY20 R1

Client: DS Consultants

Project: 19-040-100 8079 8th Line, Milton

Project Manager: Rick Fioravanti

Samplers: Sarth Sheth

PACKAGE: REG153 - Other (ORP) (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				8	10	12	14	16
Sample Name				TP20-1 S1	TP20-3 S1	TP20-4 S1	TP20-5 S1	TP20-7 S1
Sample Matrix				soil	soil	soil	soil	soil
Sample Date				27/05/2020	27/05/2020	27/05/2020	27/05/2020	27/05/2020
Parameter	Units	RL	L1	Result	Result	Result	Result	Result
Other (ORP)								
Mercury	µg/g	0.05	0.27	< 0.05	< 0.05	< 0.05	< 0.05	0.05
Sodium Adsorption Ratio	---	0.2	2.4	1.1	< 0.2	< 0.2	< 0.2	< 0.2
SAR Calcium	mg/L	0.09		90.5	23.2	22.4	27.6	29.0
SAR Magnesium	mg/L	0.02		14.9	4.9	4.2	7.6	2.5
SAR Sodium	mg/L	0.15		43.6	2.2	0.79	3.1	0.91
Conductivity	mS/cm	0.002	0.57	0.70	0.16	0.10	0.22	0.14
pH	pH Units	0.05		7.80	7.54	7.87	7.24	7.61
Chromium VI	µg/g	0.2	0.66	0.4	0.3	< 0.2	< 0.2	0.2
Free Cyanide	µg/g	0.05	0.051	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05



FINAL REPORT

CA14950-MAY20 R1

Client: DS Consultants

Project: 19-040-100 8079 8th Line, Milton

Project Manager: Rick Fioravanti

Samplers: Sarth Sheth

PACKAGE: REG153 - PAHs (SOIL)

Sample Number	10	12	14
Sample Name	TP20-3 S1	TP20-4 S1	TP20-5 S1
Sample Matrix	soil	soil	soil
Sample Date	27/05/2020	27/05/2020	27/05/2020

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Parameter	Units	RL	L1	Result	Result	Result
PAHs						
Acenaphthene	µg/g	0.05	0.072	< 0.1†	< 0.1†	< 0.1†
Acenaphthylene	µg/g	0.05	0.093	0.64	< 0.1†	< 0.1†
Anthracene	µg/g	0.05	0.16	0.44	< 0.1†	< 0.1†
Benzo(a)anthracene	µg/g	0.05	0.36	1.74	< 0.1†	< 0.1†
Benzo(a)pyrene	µg/g	0.05	0.3	1.89	0.11	< 0.1†
Benzo(b+j)fluoranthene	µg/g	0.05	0.47	2.78	< 0.25†	< 0.25†
Benzo(ghi)perylene	µg/g	0.1	0.68	0.76	0.57	0.14
Benzo(k)fluoranthene	µg/g	0.05	0.48	0.78	< 0.25†	< 0.25†
Chrysene	µg/g	0.05	2.8	1.94	< 0.1†	< 0.1†
Dibenzo(a,h)anthracene	µg/g	0.06	0.1	0.23	0.16	< 0.1†
Fluoranthene	µg/g	0.05	0.56	4.08	< 0.1†	< 0.1†
Fluorene	µg/g	0.05	0.12	0.17	< 0.1†	< 0.1†
Indeno(1,2,3-cd)pyrene	µg/g	0.1	0.23	0.74	0.15	< 0.1
1-Methylnaphthalene	µg/g	0.05		< 0.1†	< 0.1†	< 0.1†
2-Methylnaphthalene	µg/g	0.05		< 0.1†	< 0.1†	< 0.1†
Methylnaphthalene, 2-(1-)	µg/g	0.05	0.59	< 0.1†	< 0.1†	< 0.1†
Naphthalene	µg/g	0.05	0.09	< 0.1†	< 0.1†	< 0.1†
Phenanthrene	µg/g	0.05	0.69	1.16	< 0.1†	< 0.1†
Pyrene	µg/g	0.05	1	3.84	< 0.1†	< 0.1†



FINAL REPORT

CA14950-MAY20 R1

Client: DS Consultants
Project: 19-040-100 8079 8th Line, Milton
Project Manager: Rick Fioravanti
Samplers: Sarth Sheth

PACKAGE: REG153 - PHCs (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number	10	12	14
Sample Name	TP20-3 S1	TP20-4 S1	TP20-5 S1
Sample Matrix	soil	soil	soil
Sample Date	27/05/2020	27/05/2020	27/05/2020

Parameter	Units	RL	L1	Result	Result	Result
PHCs						
F1 (C6-C10)	µg/g	10	25	< 10	< 10	< 10
F1-BTEX (C6-C10)	µg/g	10		< 10	< 10	< 10
F2 (C10-C16)	µg/g	10	10	22	11	< 10
F3 (C16-C34)	µg/g	50	240	1960	1480	987
F4 (C34-C50)	µg/g	50	120	5830	4500	2340
CCME F4G-sg (GHH)	µg/g	200	120	18300	18400	10300
Chromatogram returned to baseline at nC50	Yes / No	-		NO	NO	NO

PACKAGE: REG153 - SVOC Surrogates (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number	10	12	14
Sample Name	TP20-3 S1	TP20-4 S1	TP20-5 S1
Sample Matrix	soil	soil	soil
Sample Date	27/05/2020	27/05/2020	27/05/2020

Parameter	Units	RL	L1	Result	Result	Result
SVOC Surrogates						
Surr Nitrobenzene-d5	Surr Rec %	-		78	73	80
Surr 2-Fluorobiphenyl	Surr Rec %	-		84	82	84
Surr 4-Terphenyl-d14	Surr Rec %	-		96	121	124
Surr 2-Fluorophenol	Surr Rec %	-		73	75	75
Surr Phenol-d6	Surr Rec %	-		80	82	84
Surr 2,4,6-Tribromophenol	Surr Rec %	-		90	63	65



FINAL REPORT

CA14950-MAY20 R1

Client: DS Consultants

Project: 19-040-100 8079 8th Line, Milton

Project Manager: Rick Fioravanti

Samplers: Sarth Sheth

PACKAGE: REG153 - THMs (VOC) (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number	10	12	14
Sample Name	TP20-3 S1	TP20-4 S1	TP20-5 S1
Sample Matrix	soil	soil	soil
Sample Date	27/05/2020	27/05/2020	27/05/2020

Parameter	Units	RL	L1	Result	Result	Result
THMs (VOC)						
Bromodichloromethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Bromoform	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Dibromochloromethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05

PACKAGE: REG153 - VOC Surrogates (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number	10	12	14
Sample Name	TP20-3 S1	TP20-4 S1	TP20-5 S1
Sample Matrix	soil	soil	soil
Sample Date	27/05/2020	27/05/2020	27/05/2020

Parameter	Units	RL	L1	Result	Result	Result
VOC Surrogates						
Surr 1,2-Dichloroethane-d4	Surr Rec %	-		98	101	101
Surr 4-Bromofluorobenzene	Surr Rec %	-		93	92	93
Surr 2-Bromo-1-Chloropropane	Surr Rec %	-		86	89	89

PACKAGE: REG153 - VOCs (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number	10	12	14
Sample Name	TP20-3 S1	TP20-4 S1	TP20-5 S1
Sample Matrix	soil	soil	soil
Sample Date	27/05/2020	27/05/2020	27/05/2020

Parameter	Units	RL	L1	Result	Result	Result
VOCs						
Acetone	µg/g	0.5	0.5	< 0.5	< 0.5	< 0.5
Bromomethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Carbon tetrachloride	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Chlorobenzene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05



FINAL REPORT

CA14950-MAY20 R1

Client: DS Consultants

Project: 19-040-100 8079 8th Line, Milton

Project Manager: Rick Fioravanti

Samplers: Sarth Sheth

PACKAGE: **REG153 - VOCs (SOIL)**

Sample Number	10	12	14
Sample Name	TP20-3 S1	TP20-4 S1	TP20-5 S1
Sample Matrix	soil	soil	soil
Sample Date	27/05/2020	27/05/2020	27/05/2020

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Parameter	Units	RL	L1	Result	Result	Result
VOCs (continued)						
Chloroform	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
1,2-Dichlorobenzene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
1,3-Dichlorobenzene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
1,4-Dichlorobenzene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Dichlorodifluoromethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
1,1-Dichloroethylene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
trans-1,2-Dichloroethylene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
cis-1,2-Dichloroethylene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
1,2-Dichloropropane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
cis-1,3-dichloropropene	µg/g	0.03		< 0.03	< 0.03	< 0.03
trans-1,3-dichloropropene	µg/g	0.03		< 0.03	< 0.03	< 0.03
1,3-dichloropropene (total)	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Ethylenedibromide	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
n-Hexane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Methyl ethyl ketone	µg/g	0.5	0.5	< 0.5	< 0.5	< 0.5
Methyl isobutyl ketone	µg/g	0.5	0.5	< 0.5	< 0.5	< 0.5
Methyl-t-butyl Ether	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Methylene Chloride	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Styrene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Tetrachloroethylene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
1,1,1,2-Tetrachloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05



FINAL REPORT

CA14950-MAY20 R1

Client: DS Consultants

Project: 19-040-100 8079 8th Line, Milton

Project Manager: Rick Fioravanti

Samplers: Sarth Sheth

PACKAGE: REG153 - VOCs (SOIL)

Sample Number	10	12	14
Sample Name	TP20-3 S1	TP20-4 S1	TP20-5 S1
Sample Matrix	soil	soil	soil
Sample Date	27/05/2020	27/05/2020	27/05/2020

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Parameter	Units	RL	L1	Result	Result	Result
VOCs (continued)						
1,1,2,2-Tetrachloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
1,1,1-Trichloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
1,1,2-Trichloroethane	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Trichloroethylene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05
Trichlorofluoromethane	µg/g	0.05	0.25	< 0.05	< 0.05	< 0.05
Vinyl Chloride	µg/g	0.02	0.02	< 0.02	< 0.02	< 0.02

EXCEEDANCE SUMMARY

				REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED L1
Parameter	Method	Units	Result	

TP20-1 S1

Conductivity	EPA 6010/SM 2510	mS/cm	0.70	0.57
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TP20-3 S1

F2 (C10 to C16)	CCME Tier 1	µg/g	22	10
F3 (C16 to C34)	CCME Tier 1	µg/g	1960	240
F4 (C34 to C50)	CCME Tier 1	µg/g	5830	120
Gravimetric Heavy Hydrocarbons	CCME Tier 1	µg/g	18300	120
Acenaphthene	EPA 3541/8270D	µg/g	< 0.1	0.072
Acenaphthylene	EPA 3541/8270D	µg/g	0.64	0.093
Anthracene	EPA 3541/8270D	µg/g	0.44	0.16
Benz(a)anthracene	EPA 3541/8270D	µg/g	1.74	0.36
Benzo(a)pyrene	EPA 3541/8270D	µg/g	1.89	0.3
Benzo(b+j)fluoranthene	EPA 3541/8270D	µg/g	2.78	0.47
Benzo(g,h,i)perylene	EPA 3541/8270D	µg/g	0.76	0.68
Benzo(k)fluoranthene	EPA 3541/8270D	µg/g	0.78	0.48
Dibenz(a,h)anthracene	EPA 3541/8270D	µg/g	0.23	0.1
Fluoranthene	EPA 3541/8270D	µg/g	4.08	0.56
Fluorene	EPA 3541/8270D	µg/g	0.17	0.12
Indeno(1,2,3-cd)pyrene	EPA 3541/8270D	µg/g	0.74	0.23
Naphthalene	EPA 3541/8270D	µg/g	< 0.1	0.09
Phenanthrene	EPA 3541/8270D	µg/g	1.16	0.69
Pyrene	EPA 3541/8270D	µg/g	3.84	1

TP20-4 S1

F2 (C10 to C16)	CCME Tier 1	µg/g	11	10
F3 (C16 to C34)	CCME Tier 1	µg/g	1480	240
F4 (C34 to C50)	CCME Tier 1	µg/g	4500	120
Gravimetric Heavy Hydrocarbons	CCME Tier 1	µg/g	18400	120
Acenaphthene	EPA 3541/8270D	µg/g	< 0.1	0.072
Acenaphthylene	EPA 3541/8270D	µg/g	< 0.1	0.093
Dibenz(a,h)anthracene	EPA 3541/8270D	µg/g	0.16	0.1
Naphthalene	EPA 3541/8270D	µg/g	< 0.1	0.09

TP20-5 S1

F3 (C16 to C34)	CCME Tier 1	µg/g	987	240
F4 (C34 to C50)	CCME Tier 1	µg/g	2340	120
Gravimetric Heavy Hydrocarbons	CCME Tier 1	µg/g	10300	120
Lead	EPA 3050/EPA 200.8	µg/g	180	120
Acenaphthene	EPA 3541/8270D	µg/g	< 0.1	0.072
Acenaphthylene	EPA 3541/8270D	µg/g	< 0.1	0.093
Naphthalene	EPA 3541/8270D	µg/g	< 0.1	0.09



EXCEEDANCE SUMMARY

				REG153 / SOIL / COARSE - TABLE 1 - Residential/Parklan d/Industrial - UNDEFINED
Parameter	Method	Units	Result	L1



FINAL REPORT

CA14950-MAY20 R1

QC SUMMARY

Conductivity

Method: EPA 6010/SM 2510 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0443-MAY20	mS/cm	0.002	<0.002	0	10	99	90	110	NA		

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Free Cyanide	SKA5129-MAY20	µg/g	0.05	<0.05	ND	20	94	80	120	85	75	125

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-IENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA5128-MAY20	ug/g	0.2	<0.2	ND	20	96	80	120	107	75	125



FINAL REPORT

CA14950-MAY20 R1

QC SUMMARY

Mercury by CVAAS

Method: EPA 7471A/EPA 245 | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury	EMS0133-MAY20	µg/g	0.05	<0.05	ND	20	103	80	120	82	70	130

Metals in aqueous samples - ICP-OES

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-IENVISPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
SAR Calcium	ESG0071-MAY20	mg/L	0.09	<0.09	1	20	101	80	120	95	70	130
SAR Magnesium	ESG0071-MAY20	mg/L	0.02	<0.02	2	20	99	80	120	97	70	130
SAR Sodium	ESG0071-MAY20	mg/L	0.15	<0.15	6	20	99	80	120	99	70	130



FINAL REPORT

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QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0133-MAY20	ug/g	0.05	<0.05	3	20	102	70	130	100	70	130
Arsenic	EMS0133-MAY20	µg/g	0.5	<0.5	7	20	96	70	130	81	70	130
Barium	EMS0133-MAY20	ug/g	0.1	<0.1	3	20	107	70	130	98	70	130
Beryllium	EMS0133-MAY20	µg/g	0.02	<0.02	2	20	93	70	130	76	70	130
Boron	EMS0133-MAY20	µg/g	1	<1	12	20	105	70	130	84	70	130
Cadmium	EMS0133-MAY20	µg/g	0.02	<0.02	8	20	102	70	130	102	70	130
Cobalt	EMS0133-MAY20	µg/g	0.01	<0.01	2	20	101	70	130	105	70	130
Chromium	EMS0133-MAY20	µg/g	0.5	<0.5	3	20	102	70	130	113	70	130
Copper	EMS0133-MAY20	µg/g	0.1	<0.1	1	20	105	70	130	106	70	130
Molybdenum	EMS0133-MAY20	µg/g	0.1	<0.1	7	20	95	70	130	104	70	130
Nickel	EMS0133-MAY20	ug/g	0.5	<0.5	3	20	102	70	130	108	70	130
Lead	EMS0133-MAY20	µg/g	0.1	<0.1	0	20	101	70	130	90	70	130
Antimony	EMS0133-MAY20	µg/g	0.8	<0.8	ND	20	96	70	130	119	70	130
Selenium	EMS0133-MAY20	µg/g	0.7	<0.7	ND	20	100	70	130	99	70	130
Thallium	EMS0133-MAY20	µg/g	0.02	<0.02	6	20	102	70	130	93	70	130
Uranium	EMS0133-MAY20	µg/g	0.002	<0.002	1	20	98	70	130	83	70	130
Vanadium	EMS0133-MAY20	µg/g	3	<3	2	20	101	70	130	103	70	130
Zinc	EMS0133-MAY20	µg/g	0.7	<0.7	1	20	99	70	130	100	70	130



FINAL REPORT

CA14950-MAY20 R1

QC SUMMARY

Petroleum Hydrocarbons (F1)
Method: CCME Tier 1 | Internal ref.: ME-CA-IENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0371-MAY20	µg/g	10	<10	ND	30	97	80	120	101	60	140

Petroleum Hydrocarbons (F2-F4)
Method: CCME Tier 1 | Internal ref.: ME-CA-IENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0367-MAY20	µg/g	10	<10	ND	30	117	80	120	93	60	140
F3 (C16-C34)	GCM0367-MAY20	µg/g	50	<50	43	30	117	80	120	93	60	140
F4 (C34-C50)	GCM0367-MAY20	µg/g	50	<50	38	30	117	80	120	93	60	140



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CA14950-MAY20 R1

QC SUMMARY

Petroleum Hydrocarbons (F4G)
Method: CCME Tier 1 | Internal ref.: ME-CA-IENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
CCME F4G-sg (GHH)	GCM0400-MAY20	ug/g	200	<200	45	30	103	80	120	NA	60	140

pH
Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	ARD0080-MAY20	pH Units	0.05		0	20	100	80	120			



FINAL REPORT

CA14950-MAY20 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3541/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1-Methylnaphthalene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	75	50	140	83	50	140
2-Methylnaphthalene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	72	50	140	76	50	140
Acenaphthene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	82	50	140	86	50	140
Acenaphthylene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	81	50	140	81	50	140
Anthracene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	78	50	140	77	50	140
Benzo(a)anthracene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	81	50	140	103	50	140
Benzo(a)pyrene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	80	50	140	84	50	140
Benzo(b+j)fluoranthene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	72	50	140	100	50	140
Benzo(ghi)perylene	GCM0372-MAY20	µg/g	0.1	< 0.1	36	40	76	50	140	77	50	140
Benzo(k)fluoranthene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	79	50	140	101	50	140
Chrysene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	87	50	140	104	50	140
Dibenzo(a,h)anthracene	GCM0372-MAY20	µg/g	0.06	< 0.06	ND	40	75	50	140	68	50	140
Fluoranthene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	81	50	140	88	50	140
Fluorene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	75	50	140	74	50	140
Indeno(1,2,3-cd)pyrene	GCM0372-MAY20	µg/g	0.1	< 0.1	ND	40	76	50	140	72	50	140
Naphthalene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	82	50	140	84	50	140
Phenanthrene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	80	50	140	84	50	140
Pyrene	GCM0372-MAY20	µg/g	0.05	< 0.05	ND	40	85	50	140	109	50	140



FINAL REPORT

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QC SUMMARY

Volatile Organics

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1,1,1,2-Tetrachloroethane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	102	60	130	108	50	140
1,1,1-Trichloroethane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	94	60	130	101	50	140
1,1,2,2-Tetrachloroethane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	103	60	130	106	50	140
1,1,2-Trichloroethane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	98	60	130	103	50	140
1,1-Dichloroethane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	94	60	130	100	50	140
1,1-Dichloroethylene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	91	60	130	98	50	140
1,2-Dichlorobenzene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	105	60	130	105	50	140
1,2-Dichloroethane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	97	60	130	102	50	140
1,2-Dichloropropane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	100	60	130	106	50	140
1,3-Dichlorobenzene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	103	60	130	106	50	140
1,4-Dichlorobenzene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	104	60	130	104	50	140
Acetone	GCM0365-MAY20	µg/g	0.5	< 0.5	ND	50	95	50	140	92	50	140
Benzene	GCM0365-MAY20	µg/g	0.02	< 0.02	ND	50	99	60	130	105	50	140
Bromodichloromethane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	99	60	130	106	50	140
Bromoform	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	98	60	130	101	50	140
Bromomethane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	100	50	140	89	50	140
Carbon tetrachloride	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	97	60	130	106	50	140
Chlorobenzene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	103	60	130	106	50	140
Chloroform	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	99	60	130	106	50	140
cis-1,2-Dichloroethylene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	98	60	130	104	50	140



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CA14950-MAY20 R1

QC SUMMARY

Volatile Organics (continued)

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
cis-1,3-dichloropropene	GCM0365-MAY20	µg/g	0.03	< 0.03	ND	50	101	60	130	106	50	140
Dibromochloromethane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	99	60	130	104	50	140
Dichlorodifluoromethane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	90	50	140	80	50	140
Ethylbenzene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	103	60	130	107	50	140
Ethylenedibromide	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	101	60	130	104	50	140
n-Hexane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	96	60	130	99	50	140
m/p-xylene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	102	60	130	106	50	140
Methyl ethyl ketone	GCM0365-MAY20	µg/g	0.5	< 0.5	ND	50	102	50	140	104	50	140
Methyl isobutyl ketone	GCM0365-MAY20	µg/g	0.5	< 0.5	ND	50	102	50	140	109	50	140
Methyl-t-butyl Ether	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	100	60	130	108	50	140
Methylene Chloride	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	96	60	130	100	50	140
o-xylene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	103	60	130	108	50	140
Styrene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	104	60	130	106	50	140
Tetrachloroethylene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	98	60	130	104	50	140
Toluene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	99	60	130	105	50	140
trans-1,2-Dichloroethylene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	92	60	130	97	50	140
trans-1,3-dichloropropene	GCM0365-MAY20	µg/g	0.03	< 0.03	ND	50	98	60	130	104	50	140
Trichloroethylene	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	99	60	130	106	50	140
Trichlorofluoromethane	GCM0365-MAY20	µg/g	0.05	< 0.05	ND	50	99	50	140	105	50	140
Vinyl Chloride	GCM0365-MAY20	µg/g	0.02	< 0.02	ND	50	84	50	140	87	50	140



QC SUMMARY

Water Soluble Boron

Method: O.Reg. 153/04 | Internal ref.: ME-CA-IENVI SPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Water Soluble Boron	ESG0069-MAY20	µg/g	0.5	<0.5	ND	20	99	80	120	115	70	130

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.

RL Reporting Limit.

↑ Reporting limit raised.

↓ Reporting limit lowered.

NA The sample was not analysed for this analyte

ND Non Detect

Samples analysed as received. Solid samples expressed on a dry weight basis. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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-- End of Analytical Report --

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FINAL REPORT

CA15913-MAY20 R1

19-040-100,

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Rick Fioravanti

Telephone 647-234-5131

Facsimile 905-264-2685

Email rick.fioravanti@dsconsultants.ca

Project 19-040-100,

Order Number

Samples Soil (3)

LABORATORY DETAILS

Project Specialist Brad Moore Hon. B.Sc

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 705-652-2143

Facsimile 705-652-6365

Email brad.moore@sgs.com

SGS Reference CA15913-MAY20

Received 05/29/2020

Approved 06/01/2020

Report Number CA15913-MAY20 R1

Date Reported 06/02/2020

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.

The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 3

Cooling Agent Present: Yes

Custody Seal Present: Yes

Chain of Custody Number: NA

SIGNATORIES

Brad Moore Hon. B.Sc

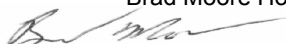




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FINAL REPORT

CA15913-MAY20 R1

Client: DS Consultants
Project: 19-040-100,
Project Manager: Rick Fioravanti
Samplers: Sarth Sheth

PACKAGE: REG153 - Metals and Inorganics (SOIL)

Sample Number	8	9	10
Sample Name	TP20-3 S2	TP20-4 S2	TP20-5 S2
Sample Matrix	Soil	Soil	Soil
Sample Date	27/05/2020	27/05/2020	27/05/2020

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Parameter	Units	RL	L1	Result	Result	Result
Metals and Inorganics						
Moisture Content	%	0.1		15.5	16.8	13.4
Barium	µg/g	0.1	220			83
Beryllium	µg/g	0.02	2.5			0.65
Boron	µg/g	1	36			6
Cadmium	µg/g	0.02	1.2			0.09
Chromium	µg/g	0.5	70			23
Cobalt	µg/g	0.01	21			13
Copper	µg/g	0.1	92			29
Lead	µg/g	0.1	120			9.0
Molybdenum	µg/g	0.1	2			0.2
Nickel	µg/g	0.5	82			28
Silver	µg/g	0.05	0.5			< 0.05
Thallium	µg/g	0.02	1			0.16
Uranium	µg/g	0.002	2.5			0.46
Vanadium	µg/g	3	86			29
Zinc	µg/g	0.7	290			59



FINAL REPORT

CA15913-MAY20 R1

Client: DS Consultants

Project: 19-040-100,

Project Manager: Rick Fioravanti

Samplers: Sarth Sheth

PACKAGE: **REG153 - PAHs (SOIL)**

Sample Number	8	9	10
Sample Name	TP20-3 S2	TP20-4 S2	TP20-5 S2
Sample Matrix	Soil	Soil	Soil
Sample Date	27/05/2020	27/05/2020	27/05/2020

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Parameter	Units	RL	L1	Result	Result	Result
PAHs						
Acenaphthene	µg/g	0.05	0.072	< 0.05	< 0.05	< 0.05
Acenaphthylene	µg/g	0.05	0.093	< 0.05	< 0.05	< 0.05
Anthracene	µg/g	0.05	0.16	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	µg/g	0.05	0.36	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	µg/g	0.05	0.3	< 0.05	< 0.05	< 0.05
Benzo(b+j)fluoranthene	µg/g	0.05	0.47	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	µg/g	0.1	0.68	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	µg/g	0.05	0.48	< 0.05	< 0.05	< 0.05
Chrysene	µg/g	0.05	2.8	< 0.05	< 0.05	< 0.05
Dibenzo(a,h)anthracene	µg/g	0.06	0.1	< 0.06	< 0.06	< 0.06
Fluoranthene	µg/g	0.05	0.56	< 0.05	< 0.05	< 0.05
Fluorene	µg/g	0.05	0.12	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.1	0.23	< 0.1	< 0.1	< 0.1
1-Methylnaphthalene	µg/g	0.05		< 0.05	< 0.05	< 0.05
2-Methylnaphthalene	µg/g	0.05		< 0.05	< 0.05	< 0.05
Methylnaphthalene, 2-(1-)	µg/g	0.05	0.59	< 0.05	< 0.05	< 0.05
Naphthalene	µg/g	0.05	0.09	< 0.05	< 0.05	< 0.05
Phenanthrene	µg/g	0.05	0.69	< 0.05	< 0.05	< 0.05
Pyrene	µg/g	0.05	1	< 0.05	< 0.05	< 0.05



FINAL REPORT

CA15913-MAY20 R1

Client: DS Consultants
Project: 19-040-100,
Project Manager: Rick Fioravanti
Samplers: Sarth Sheth

PACKAGE: REG153 - PHCs (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				8	9	10
Sample Name				TP20-3 S2	TP20-4 S2	TP20-5 S2
Sample Matrix				Soil	Soil	Soil
Sample Date				27/05/2020	27/05/2020	27/05/2020
Parameter	Units	RL	L1	Result	Result	Result
PHCs						
F2 (C10-C16)	µg/g	10	10	< 10	< 10	< 10
F3 (C16-C34)	µg/g	50	240	< 50	< 50	< 50
F4 (C34-C50)	µg/g	50	120	< 50	< 50	< 50
Chromatogram returned to baseline at nC50	Yes / No	-		YES	YES	YES

PACKAGE: REG153 - SVOC Surrogates (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				8	9	10
Sample Name				TP20-3 S2	TP20-4 S2	TP20-5 S2
Sample Matrix				Soil	Soil	Soil
Sample Date				27/05/2020	27/05/2020	27/05/2020
Parameter	Units	RL	L1	Result	Result	Result
SVOC Surrogates						
Surr Nitrobenzene-d5	Surr Rec %	-		79	75	78
Surr 2-Fluorobiphenyl	Surr Rec %	-		78	72	78
Surr 4-Terphenyl-d14	Surr Rec %	-		89	84	91
Surr 2-Fluorophenol	Surr Rec %	-		80	78	81
Surr Phenol-d6	Surr Rec %	-		79	79	81
Surr 2,4,6-Tribromophenol	Surr Rec %	-		77	74	79

EXCEEDANCE SUMMARY

No exceedances are present above the regulatory limit(s) indicated



FINAL REPORT

CA15913-MAY20 R1

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0138-MAY20	ug/g	0.05	<0.05	0	20	98	70	130	113	70	130
Barium	EMS0138-MAY20	ug/g	0.1	<0.1	5	20	109	70	130	104	70	130
Beryllium	EMS0138-MAY20	ug/g	0.02	<0.02	5	20	99	70	130	101	70	130
Boron	EMS0138-MAY20	ug/g	1	<1	4	20	101	70	130	103	70	130
Cadmium	EMS0138-MAY20	ug/g	0.02	<0.02	ND	20	95	70	130	113	70	130
Cobalt	EMS0138-MAY20	ug/g	0.01	<0.01	20	20	94	70	130	118	70	130
Chromium	EMS0138-MAY20	ug/g	0.5	<0.5	11	20	95	70	130	118	70	130
Copper	EMS0138-MAY20	ug/g	0.1	<0.1	10	20	96	70	130	114	70	130
Molybdenum	EMS0138-MAY20	ug/g	0.1	<0.1	7	20	92	70	130	118	70	130
Nickel	EMS0138-MAY20	ug/g	0.5	<0.5	3	20	94	70	130	118	70	130
Lead	EMS0138-MAY20	ug/g	0.1	<0.1	ND	20	105	70	130	108	70	130
Thallium	EMS0138-MAY20	ug/g	0.02	<0.02	8	20	104	70	130	114	70	130
Uranium	EMS0138-MAY20	ug/g	0.002	<0.002	6	20	102	70	130	100	70	130
Vanadium	EMS0138-MAY20	ug/g	3	<3	3	20	98	70	130	116	70	130
Zinc	EMS0138-MAY20	ug/g	0.7	<0.7	ND	20	98	70	130	111	70	130



FINAL REPORT

CA15913-MAY20 R1

QC SUMMARY

Petroleum Hydrocarbons (F2-F4)
Method: CCME Tier 1 | Internal ref.: ME-CA-IENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0401-MAY20	µg/g	10	<10	ND	30	106	80	120	107	60	140
F3 (C16-C34)	GCM0401-MAY20	µg/g	50	<50	ND	30	106	80	120	107	60	140
F4 (C34-C50)	GCM0401-MAY20	µg/g	50	<50	ND	30	106	80	120	107	60	140



FINAL REPORT

CA15913-MAY20 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3541/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1-Methylnaphthalene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	71	50	140	71	50	140
2-Methylnaphthalene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	67	50	140	67	50	140
Acenaphthene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	72	50	140	71	50	140
Acenaphthylene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	74	50	140	74	50	140
Anthracene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	68	50	140	68	50	140
Benzo(a)anthracene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	72	50	140	73	50	140
Benzo(a)pyrene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	71	50	140	73	50	140
Benzo(b+j)fluoranthene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	64	50	140	65	50	140
Benzo(ghi)perylene	GCM0402-MAY20	µg/g	0.1	< 0.1	ND	40	69	50	140	67	50	140
Benzo(k)fluoranthene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	69	50	140	69	50	140
Chrysene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	66	50	140	65	50	140
Dibenzo(a,h)anthracene	GCM0402-MAY20	µg/g	0.06	< 0.06	ND	40	65	50	140	65	50	140
Fluoranthene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	69	50	140	68	50	140
Fluorene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	64	50	140	64	50	140
Indeno(1,2,3-cd)pyrene	GCM0402-MAY20	µg/g	0.1	< 0.1	ND	40	68	50	140	69	50	140
Naphthalene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	71	50	140	72	50	140
Phenanthrene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	69	50	140	69	50	140
Pyrene	GCM0402-MAY20	µg/g	0.05	< 0.05	ND	40	76	50	140	76	50	140

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.

RL Reporting Limit.

↑ Reporting limit raised.

↓ Reporting limit lowered.

NA The sample was not analysed for this analyte

ND Non Detect

Samples analysed as received. Solid samples expressed on a dry weight basis. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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-- End of Analytical Report --



PRELIMINARY REPORT

CA15958-MAY20 R1

19-040-101, 8079 6th Line

Prepared for

DS Consultants

First Page

CLIENT DETAILS

Client DS Consultants

Address 6221 Highway 7 Unit 16
Vaughan, Ontario
L4H 0K8, Canada

Contact Rick Fioravanti

Telephone 647-234-5131

Facsimile 905-264-2685

Email rick.fioravanti@dsconsultants.ca

Project 19-040-101, 8079 6th Line

Order Number

Samples soil (23)

LABORATORY DETAILS

Project Specialist Brad Moore Hon. B.Sc

Laboratory SGS Canada Inc.

Address 185 Concession St., Lakefield ON, K0L 2H0

Telephone 705-652-2143

Facsimile 705-652-6365

Email brad.moore@sgs.com

SGS Reference CA15958-MAY20

Received 05/29/2020

Approved 01/01/1970

Report Number CA15958-MAY20 R1

Date Reported 06/03/2020

COMMENTS

CCME Method Compliance: Analyses were conducted using analytical procedures that comply with the Reference Method for the CWS for Petroleum Hydrocarbons in Soil and have been validated for use at the SGS laboratory, Lakefield, ON site.

Quality Compliance: Instrument performance / calibration quality criteria were met and extraction and analysis limits for holding times were met.

nC6 and nC10 response factors within 30% of response factor for toluene: YES

nC10, nC16 and nC34 response factors within 10% of the average response for the three compounds: YES

C50 response factors within 70% of nC10 + nC16 + nC34 average: YES

Linearity is within 15%: YES

F4G - gravimetric heavy hydrocarbons cannot be added to the C6 to C50 hydrocarbons.

The results for F4 and F4G are both reported and the greater of the two values is to be used in application to the CWS PHC.

Hydrocarbon results are expressed on a dry weight basis.

Benzo(b)fluoranthene results for comparison to the standard are reported as benzo(b+j)fluoranthene. Benzo(b)fluoranthene and benzo(j)fluoranthene co-elute and cannot be reported individually by the analytical method used.

Temperature of Sample upon Receipt: 14 degrees C

Cooling Agent Present: Yes

Custody Seal Present: Yes

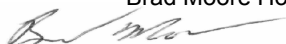
Chain of Custody Number: NA

Samples 12,14,15,17,19,21-24 - Samples were diluted due to sample matrix. Some SVOC RL's were increased accordingly

SIGNATORIES

The signatories will be applied on the final report.

Brad Moore Hon. B.Sc





PRELIMINARY REPORT

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PRELIMINARY REPORT

CA15958-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 6th Line

Project Manager: Rick Fioravanti

Samplers: Sarth Shith

PACKAGE: REG153 - BTEX (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

				Sample Number	14	15	17	18	19	21	22	23
				Sample Name	TP20-12 S1	TP20-13 S1	TP20-15 S1	TP20-16 S1	TP20-17 S1	TP20-19 S1	TP20-20 S1	TP20-21 S1
				Sample Matrix	soil	soil	soil	soil	soil	soil	soil	soil
				Sample Date	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result	Result
BTEX												
Benzene	µg/g	0.02	0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Ethylbenzene	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Toluene	µg/g	0.05	0.2	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Xylene (total)	µg/g	0.05	0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
m/p-xylene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
o-xylene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

PACKAGE: REG153 - BTEX (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

				Sample Number	24
				Sample Name	TP20-22 S1
				Sample Matrix	soil
				Sample Date	29/05/2020

Parameter	Units	RL	L1	Result
BTEX				
Benzene	µg/g	0.02	0.02	< 0.02
Ethylbenzene	µg/g	0.05	0.05	< 0.05
Toluene	µg/g	0.05	0.2	< 0.05
Xylene (total)	µg/g	0.05	0.05	< 0.05
m/p-xylene	µg/g	0.05		< 0.05
o-xylene	µg/g	0.05		< 0.05



PRELIMINARY REPORT

CA15958-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 6th Line

Project Manager: Rick Fioravanti

Samplers: Sarth Shith

PACKAGE: REG153 - Hydrides (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				8	9	10	11	12	21	22
Sample Name				TP20-8 S1	DUP-3	TP20-9 S1	DUP-4	TP20-10 S1	TP20-19 S1	TP20-20 S1
Sample Matrix				soil	soil	soil	soil	soil	soil	soil
Sample Date				29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result
Hydrides										
Antimony	µg/g	0.8	1.3	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8	< 0.8
Arsenic	µg/g	0.5	18	4.3	4.4	3.1	2.9	2.8	2.5	2.5
Selenium	µg/g	0.7	1.5	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7	< 0.7

PACKAGE: REG153 - Metals and Inorganics (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				8	9	10	11	12	13	14	15
Sample Name				TP20-8 S1	DUP-3	TP20-9 S1	DUP-4	TP20-10 S1	TP20-11 S1	TP20-12 S1	TP20-13 S1
Sample Matrix				soil	soil	soil	soil	soil	soil	soil	soil
Sample Date				29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result
Metals and Inorganics											
Moisture Content	%	-		18.9	19.0	19.4	18.7	4.1	32.0	5.4	5.7
Barium	µg/g	0.1	220	89	87	72	66	30	91	28	33
Beryllium	µg/g	0.02	2.5	0.61	0.60	0.40	0.39	0.14	0.50	0.15	0.17
Boron	µg/g	1	36	6	6	7	7	6	8	6	6
Cadmium	µg/g	0.02	1.2	0.36	0.32	0.27	0.24	0.59	0.32	0.47	0.35
Chromium	µg/g	0.5	70	19	20	16	15	6.8	17	9.1	7.8
Cobalt	µg/g	0.01	21	11	11	8.5	8.1	3.4	11	3.6	3.6
Copper	µg/g	0.1	92	27	28	30	29	21	34	17	19
Lead	µg/g	0.1	120	19	20	17	16	48	24	59	33
Molybdenum	µg/g	0.1	2	0.6	0.5	0.5	0.5	0.9	0.5	0.8	1.0
Nickel	µg/g	0.5	82	21	21	16	15	11	20	11	13
Silver	µg/g	0.05	0.5	0.06	0.06	< 0.05	< 0.05	0.08	< 0.05	0.07	< 0.05
Thallium	µg/g	0.02	1	0.16	0.15	0.12	0.12	0.08	0.12	0.08	0.07



PRELIMINARY REPORT

CA15958-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 6th Line

Project Manager: Rick Fioravanti

Samplers: Sarth Shith

PACKAGE: REG153 - Metals and Inorganics (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				8	9	10	11	12	13	14	15
Sample Name				TP20-8 S1	DUP-3	TP20-9 S1	DUP-4	TP20-10 S1	TP20-11 S1	TP20-12 S1	TP20-13 S1
Sample Matrix				soil	soil	soil	soil	soil	soil	soil	soil
Sample Date				29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result
Metals and Inorganics (continued)											
Uranium	µg/g	0.002	2.5	0.61	0.70	0.58	0.54	0.49	0.47	0.43	0.27
Vanadium	µg/g	3	86	28	29	22	21	23	22	22	23
Zinc	µg/g	0.7	290	78	82	96	91	250	170	290	180
Water Soluble Boron	µg/g	0.5						< 0.5			

PACKAGE: REG153 - Metals and Inorganics (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				16	17	18	19	20	21	22	23
Sample Name				TP20-14 S1	TP20-15 S1	TP20-16 S1	TP20-17 S1	TP20-18 S1	TP20-19 S1	TP20-20 S1	TP20-21 S1
Sample Matrix				soil	soil	soil	soil	soil	soil	soil	soil
Sample Date				29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result
Metals and Inorganics											
Moisture Content	%	-		20.2	5.1	26.5	7.2	9.3	4.3	5.2	5.4
Barium	µg/g	0.1	220	110	39	150	42	70	32	21	15
Beryllium	µg/g	0.02	2.5	0.75	0.19	0.61	0.17	0.47	0.16	0.12	0.09
Boron	µg/g	1	36	7	5	6	5	6	5	5	8
Cadmium	µg/g	0.02	1.2	0.19	0.14	0.28	0.17	0.14	0.09	0.25	0.22
Chromium	µg/g	0.5	70	25	9.7	20	8.9	18	30	7.6	7.0
Cobalt	µg/g	0.01	21	14	4.1	10	3.7	11	9.3	2.9	3.4
Copper	µg/g	0.1	92	37	23	28	22	29	23	15	11
Lead	µg/g	0.1	120	38	19	23	21	23	11	23	25
Molybdenum	µg/g	0.1	2	0.4	1.2	0.4	0.8	0.4	0.8	0.8	0.8
Nickel	µg/g	0.5	82	29	15	21	13	19	14	10	9.6
Silver	µg/g	0.05	0.5	0.06	< 0.05	0.08	0.05	0.06	< 0.05	0.05	0.06



PRELIMINARY REPORT

CA15958-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 6th Line

Project Manager: Rick Fioravanti

Samplers: Sarth Shith

PACKAGE: **REG153 - Metals and Inorganics (SOIL)**

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number	16	17	18	19	20	21	22	23
Sample Name	TP20-14 S1	TP20-15 S1	TP20-16 S1	TP20-17 S1	TP20-18 S1	TP20-19 S1	TP20-20 S1	TP20-21 S1
Sample Matrix	soil	soil	soil	soil	soil	soil	soil	soil
Sample Date	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result
-----------	-------	----	----	--------	--------	--------	--------	--------	--------	--------	--------

Metals and Inorganics (continued)

Thallium	µg/g	0.02	1	0.18	0.08	0.14	0.08	0.12	0.05	0.06	0.06
Uranium	µg/g	0.002	2.5	0.49	0.30	1.2	0.37	0.46	0.29	0.38	0.36
Vanadium	µg/g	3	86	34	26	27	21	25	41	19	16
Zinc	µg/g	0.7	290	89	80	86	86	77	45	130	120
Water Soluble Boron	µg/g	0.5							< 0.5	< 0.5	

PACKAGE: **REG153 - Metals and Inorganics (SOIL)**

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number	24
Sample Name	TP20-22 S1
Sample Matrix	soil
Sample Date	29/05/2020

Parameter	Units	RL	L1	Result
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Metals and Inorganics

Moisture Content	%	-		3.2
Barium	µg/g	0.1	220	40
Beryllium	µg/g	0.02	2.5	0.17
Boron	µg/g	1	36	4
Cadmium	µg/g	0.02	1.2	0.07
Chromium	µg/g	0.5	70	8.0
Cobalt	µg/g	0.01	21	4.0
Copper	µg/g	0.1	92	21
Lead	µg/g	0.1	120	8.6
Molybdenum	µg/g	0.1	2	0.8
Nickel	µg/g	0.5	82	17



PRELIMINARY REPORT

CA15958-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 6th Line

Project Manager: Rick Fioravanti

Samplers: Sarth Shith

PACKAGE: **REG153 - Metals and Inorganics (SOIL)**

Sample Number 24
Sample Name TP20-22 S1
Sample Matrix soil
Sample Date 29/05/2020

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Parameter	Units	RL	L1	Result
Metals and Inorganics (continued)				
Silver	µg/g	0.05	0.5	< 0.05
Thallium	µg/g	0.02	1	0.06
Uranium	µg/g	0.002	2.5	0.26
Vanadium	µg/g	3	86	34
Zinc	µg/g	0.7	290	40

PACKAGE: **REG153 - Other (ORP) (SOIL)**

Sample Number 8 9 10 11 12 21 22 25
Sample Name TP20-8 S1 DUP-3 TP20-9 S1 DUP-4 TP20-10 S1 TP20-19 S1 TP20-20 S1 TP21- C1
Sample Matrix soil soil soil soil soil soil soil soil
Sample Date 29/05/2020 29/05/2020 29/05/2020 29/05/2020 29/05/2020 29/05/2020 29/05/2020 29/05/2020

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result
Other (ORP)											
Mercury	µg/g	0.05	0.27	< 0.05	< 0.05	< 0.05	0.06	< 0.05	< 0.05	< 0.05	
Sodium Adsorption Ratio	---	0.2	2.4					< 0.2	< 0.2	< 0.2	
SAR Calcium	mg/L	0.09						13.9	20.5	30.9	
SAR Magnesium	mg/L	0.02						2.6	2.2	5.0	
SAR Sodium	mg/L	0.15						0.91	1.8	1.4	
Conductivity	mS/cm	0.002	0.57					0.10	0.11	0.17	0.18
pH	pH Units	0.05						8.16	8.28	8.06	
Chromium VI	µg/g	0.2	0.66					< 0.2	0.2	< 0.2	
Free Cyanide	µg/g	0.05	0.051					< 0.05	< 0.05	< 0.05	



PRELIMINARY REPORT

CA15958-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 6th Line

Project Manager: Rick Fioravanti

Samplers: Sarth Shith

PACKAGE: REG153 - Other (ORP) (SOIL)

Sample Number	26	27	28	29	30
Sample Name	TP21- C2	TP21- C3	TP21- C4	TP21- C5	DUP5
Sample Matrix	soil	soil	soil	soil	soil
Sample Date	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Parameter	Units	RL	L1	Result	Result	Result	Result	Result
Other (ORP)								
Conductivity	mS/cm	0.002	0.57	0.17	0.18	0.32	0.23	0.25

PACKAGE: REG153 - PAHs (SOIL)

Sample Number	8	9	10	12	13	14	15	16
Sample Name	TP20-8 S1	DUP-3	TP20-9 S1	TP20-10 S1	TP20-11 S1	TP20-12 S1	TP20-13 S1	TP20-14 S1
Sample Matrix	soil	soil	soil	soil	soil	soil	soil	soil
Sample Date	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result
PAHs											
Acenaphthene	µg/g	0.05	0.072	< 0.05	< 0.05	< 0.05	< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.05
Acenaphthylene	µg/g	0.05	0.093	< 0.05	< 0.05	< 0.05	0.35	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.05
Anthracene	µg/g	0.05	0.16	< 0.05	< 0.05	< 0.05	0.25	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.05
Benzo(a)anthracene	µg/g	0.05	0.36	< 0.05	< 0.05	< 0.05	1.62	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.05
Benzo(a)pyrene	µg/g	0.05	0.3	< 0.05	< 0.05	< 0.05	1.76	< 0.05	0.17	0.25	< 0.05
Benzo(b+j)fluoranthene	µg/g	0.05	0.47	< 0.05	< 0.05	< 0.05	2.52	< 0.05	< 0.25 ↑	< 0.25 ↑	< 0.05
Benzo(ghi)perylene	µg/g	0.1	0.68	< 0.1	< 0.1	< 0.1	1.19	< 0.1	< 0.5 ↑	< 0.5 ↑	< 0.1
Benzo(k)fluoranthene	µg/g	0.05	0.48	< 0.05	< 0.05	< 0.05	0.85	< 0.05	< 0.25 ↑	< 0.25 ↑	< 0.05
Chrysene	µg/g	0.05	2.8	< 0.05	< 0.05	< 0.05	1.41	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.05
Dibenzo(a,h)anthracene	µg/g	0.06	0.1	< 0.06	< 0.06	< 0.06	0.33	< 0.06	< 0.2 ↑	< 0.2 ↑	< 0.06
Fluoranthene	µg/g	0.05	0.56	< 0.05	< 0.05	< 0.05	2.83	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.05
Fluorene	µg/g	0.05	0.12	< 0.05	< 0.05	< 0.05	< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.05
Indeno(1,2,3-cd)pyrene	µg/g	0.1	0.23	< 0.1	< 0.1	< 0.1	0.87	< 0.1	< 0.2 ↑	< 0.2 ↑	< 0.1
1-Methylnaphthalene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.05
2-Methylnaphthalene	µg/g	0.05		< 0.05	< 0.05	< 0.05	< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.05



PRELIMINARY REPORT

CA15958-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 6th Line

Project Manager: Rick Fioravanti

Samplers: Sarth Shith

PACKAGE: REG153 - PAHs (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				8	9	10	12	13	14	15	16
Sample Name				TP20-8 S1	DUP-3	TP20-9 S1	TP20-10 S1	TP20-11 S1	TP20-12 S1	TP20-13 S1	TP20-14 S1
Sample Matrix				soil	soil	soil	soil	soil	soil	soil	soil
Sample Date				29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result
PAHs (continued)											
Methylnaphthalene, 2-(1-)	µg/g	0.05	0.59	< 0.05	< 0.05	< 0.05	< 0.1↑	< 0.05	< 0.1↑	< 0.1↑	< 0.05
Naphthalene	µg/g	0.05	0.09	< 0.05	< 0.05	< 0.05	< 0.1↑	< 0.05	< 0.1↑	< 0.1↑	< 0.05
Phenanthrene	µg/g	0.05	0.69	< 0.05	< 0.05	< 0.05	0.71	< 0.05	< 0.1↑	< 0.1↑	< 0.05
Pyrene	µg/g	0.05	1	< 0.05	< 0.05	< 0.05	2.64	< 0.05	0.12	0.14	< 0.05

PACKAGE: REG153 - PAHs (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				17	18	19	20	21	22	23	24
Sample Name				TP20-15 S1	TP20-16 S1	TP20-17 S1	TP20-18 S1	TP20-19 S1	TP20-20 S1	TP20-21 S1	TP20-22 S1
Sample Matrix				soil	soil	soil	soil	soil	soil	soil	soil
Sample Date				29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result
PAHs											
Acenaphthene	µg/g	0.05	0.072	< 0.1↑	< 0.05	< 0.1↑	< 0.05	< 0.1↑	< 0.1↑	< 0.1↑	< 0.1↑
Acenaphthylene	µg/g	0.05	0.093	< 0.1↑	< 0.05	< 0.1↑	< 0.05	< 0.1↑	< 0.1↑	< 0.1↑	< 0.1↑
Anthracene	µg/g	0.05	0.16	< 0.1↑	< 0.05	< 0.1↑	< 0.05	< 0.1↑	< 0.1↑	< 0.1↑	< 0.1↑
Benzo(a)anthracene	µg/g	0.05	0.36	< 0.1↑	0.10	< 0.1↑	0.07	< 0.1↑	< 0.1↑	< 0.1↑	0.13
Benzo(a)pyrene	µg/g	0.05	0.3	0.11	0.07	< 0.1↑	< 0.05	0.12	0.19	< 0.1↑	0.27
Benzo(b+j)fluoranthene	µg/g	0.05	0.47	< 0.25↑	0.08	< 0.25↑	0.06	< 0.25↑	< 0.25↑	< 0.25↑	0.45
Benzo(ghi)perylene	µg/g	0.1	0.68	0.38	< 0.1	0.20	< 0.1	0.51	0.39	0.25	0.48
Benzo(k)fluoranthene	µg/g	0.05	0.48	< 0.25↑	< 0.05	< 0.25↑	< 0.05	< 0.25↑	< 0.25↑	< 0.25↑	< 0.25↑
Chrysene	µg/g	0.05	2.8	< 0.1↑	0.07	< 0.1↑	0.06	< 0.1↑	< 0.1↑	< 0.1↑	< 0.1↑
Dibenzo(a,h)anthracene	µg/g	0.06	0.1	0.14	< 0.06	< 0.1↑	< 0.06	0.13	0.11	< 0.1↑	0.13
Fluoranthene	µg/g	0.05	0.56	< 0.1↑	0.14	< 0.1↑	0.08	< 0.1↑	< 0.1↑	< 0.1↑	0.25
Fluorene	µg/g	0.05	0.12	< 0.1↑	< 0.05	< 0.1↑	< 0.05	< 0.1↑	< 0.1↑	< 0.1↑	< 0.1↑



PRELIMINARY REPORT

CA15958-MAY20 R1

Client: DS Consultants
Project: 19-040-101, 8079 6th Line
Project Manager: Rick Fioravanti
Samplers: Sarth Shith

PACKAGE: REG153 - PAHs (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

				Sample Number	17	18	19	20	21	22	23	24
				Sample Name	TP20-15 S1	TP20-16 S1	TP20-17 S1	TP20-18 S1	TP20-19 S1	TP20-20 S1	TP20-21 S1	TP20-22 S1
				Sample Matrix	soil	soil	soil	soil	soil	soil	soil	soil
				Sample Date	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020
Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result	Result
PAHs (continued)												
Indeno(1,2,3-cd)pyrene	µg/g	0.1	0.23	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.11	< 0.1	0.25
1-Methylnaphthalene	µg/g	0.05		< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑
2-Methylnaphthalene	µg/g	0.05		< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑
Methylnaphthalene, 2-(-)	µg/g	0.05	0.59	< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑
Naphthalene	µg/g	0.05	0.09	< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑
Phenanthrene	µg/g	0.05	0.69	< 0.1 ↑	0.10	< 0.1 ↑	< 0.05	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑	< 0.1 ↑
Pyrene	µg/g	0.05	1	< 0.1 ↑	0.11	< 0.1 ↑	0.07	< 0.1 ↑	0.11	< 0.1 ↑	< 0.1 ↑	0.35

PACKAGE: REG153 - PHCs (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

				Sample Number	8	9	10	11	12	13	14	15
				Sample Name	TP20-8 S1	DUP-3	TP20-9 S1	DUP-4	TP20-10 S1	TP20-11 S1	TP20-12 S1	TP20-13 S1
				Sample Matrix	soil	soil	soil	soil	soil	soil	soil	soil
				Sample Date	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020
Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result	Result
PHCs												
F1 (C6-C10)	µg/g	10	25								< 10	< 10
F1-BTEX (C6-C10)	µg/g	10									< 10	< 10
F2 (C10-C16)	µg/g	10	10	< 10	< 10	< 10	< 10	35	< 10	16	< 10	< 10
F3 (C16-C34)	µg/g	50	240	< 50	< 50	70	76	2320	134	1140	1450	1450
F4 (C34-C50)	µg/g	50	120	< 50	< 50	< 50	< 50	6730	81	3560	4240	4240
Chromatogram returned to baseline at nC50	Yes / No	-		YES	YES	YES	YES	YES	YES	YES	YES	YES



PRELIMINARY REPORT

CA15958-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 6th Line

Project Manager: Rick Fioravanti

Samplers: Sarth Shith

PACKAGE: REG153 - PHCs (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

				Sample Number	16	17	18	19	20	21	22	23
				Sample Name	TP20-14 S1	TP20-15 S1	TP20-16 S1	TP20-17 S1	TP20-18 S1	TP20-19 S1	TP20-20 S1	TP20-21 S1
				Sample Matrix	soil	soil	soil	soil	soil	soil	soil	soil
				Sample Date	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result
PHCs											
F1 (C6-C10)	µg/g	10	25		< 10	< 10	< 10		< 10	< 10	< 10
F1-BTEX (C6-C10)	µg/g	10			< 10	< 10	< 10		< 10	< 10	< 10
F2 (C10-C16)	µg/g	10	10	< 10	10	< 10	11	< 10	14	13	12
F3 (C16-C34)	µg/g	50	240	< 50	1350	< 50	1290	92	1630	1110	832
F4 (C34-C50)	µg/g	50	120	< 50	3140	< 50	2830	199	5110	3510	2680
Chromatogram returned to baseline at nC50	Yes / No	-		YES	YES	YES	NO	YES	NO	NO	NO

PACKAGE: REG153 - PHCs (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

				Sample Number	24
				Sample Name	TP20-22 S1
				Sample Matrix	soil
				Sample Date	29/05/2020

Parameter	Units	RL	L1	Result
PHCs				
F1 (C6-C10)	µg/g	10	25	< 10
F1-BTEX (C6-C10)	µg/g	10		< 10
F2 (C10-C16)	µg/g	10	10	14
F3 (C16-C34)	µg/g	50	240	1630
F4 (C34-C50)	µg/g	50	120	3880
Chromatogram returned to baseline at nC50	Yes / No	-		YES



PRELIMINARY REPORT

CA15958-MAY20 R1

Client: DS Consultants

Project: 19-040-101, 8079 6th Line

Project Manager: Rick Fioravanti

Samplers: Sarth Shith

PACKAGE: REG153 - SVOC Surrogates (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				8	9	10	12	13	14	15	16
Sample Name				TP20-8 S1	DUP-3	TP20-9 S1	TP20-10 S1	TP20-11 S1	TP20-12 S1	TP20-13 S1	TP20-14 S1
Sample Matrix				soil	soil	soil	soil	soil	soil	soil	soil
Sample Date				29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result
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SVOC Surrogates

Surr Nitrobenzene-d5	Surr Rec %	-		65	71	86	77	83	75	79	86
Surr 2-Fluorobiphenyl	Surr Rec %	-		69	67	91	86	74	84	93	81
Surr 4-Terphenyl-d14	Surr Rec %	-		71	67	97	113	89	101	114	95
Surr 2-Fluorophenol	Surr Rec %	-		69	85	88	80	83	75	84	87
Surr Phenol-d6	Surr Rec %	-		60	78	85	80	82	70	84	85
Surr 2,4,6-Tribromophenol	Surr Rec %	-		54	54	87	72	85	68	68	86

PACKAGE: REG153 - SVOC Surrogates (SOIL)

L1 = REG153 / SOIL / COARSE - TABLE 1 - Residential/Parkland/Industrial - UNDEFINED

Sample Number				17	18	19	20	21	22	23	24
Sample Name				TP20-15 S1	TP20-16 S1	TP20-17 S1	TP20-18 S1	TP20-19 S1	TP20-20 S1	TP20-21 S1	TP20-22 S1
Sample Matrix				soil	soil	soil	soil	soil	soil	soil	soil
Sample Date				29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020	29/05/2020

Parameter	Units	RL	L1	Result	Result	Result	Result	Result	Result	Result	Result
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SVOC Surrogates

Surr Nitrobenzene-d5	Surr Rec %	-		77	82	78	83	71	80	83	80
Surr 2-Fluorobiphenyl	Surr Rec %	-		86	68	89	87	82	91	89	88
Surr 4-Terphenyl-d14	Surr Rec %	-		88	93	92	100	94	102	111	115
Surr 2-Fluorophenol	Surr Rec %	-		85	88	83	81	76	82	84	84
Surr Phenol-d6	Surr Rec %	-		84	86	84	80	77	84	82	80
Surr 2,4,6-Tribromophenol	Surr Rec %	-		66	80	67	96	64	63	72	67

EXCEEDANCE SUMMARY

				REG153 / SOIL / COARSE - TABLE 1 - Residential/Parklan d/Industrial - UNDEFINED L1
Parameter	Method	Units	Result	

TP20-10 S1

F2 (C10 to C16)	CCME Tier 1	µg/g	35	10
F3 (C16 to C34)	CCME Tier 1	µg/g	2320	240
F4 (C34 to C50)	CCME Tier 1	µg/g	6730	120
Acenaphthene	EPA 3541/8270D	µg/g	< 0.1	0.072
Acenaphthylene	EPA 3541/8270D	µg/g	0.35	0.093
Anthracene	EPA 3541/8270D	µg/g	0.25	0.16
Benz(a)anthracene	EPA 3541/8270D	µg/g	1.62	0.36
Benzo(a)pyrene	EPA 3541/8270D	µg/g	1.76	0.3
Benzo(b+j)fluoranthene	EPA 3541/8270D	µg/g	2.52	0.47
Benzo(g,h,i)perylene	EPA 3541/8270D	µg/g	1.19	0.68
Benzo(k)fluoranthene	EPA 3541/8270D	µg/g	0.85	0.48
Dibenz(a,h)anthracene	EPA 3541/8270D	µg/g	0.33	0.1
Fluoranthene	EPA 3541/8270D	µg/g	2.83	0.56
Indeno(1,2,3-cd)pyrene	EPA 3541/8270D	µg/g	0.87	0.23
Naphthalene	EPA 3541/8270D	µg/g	< 0.1	0.09
Phenanthrene	EPA 3541/8270D	µg/g	0.71	0.69
Pyrene	EPA 3541/8270D	µg/g	2.64	1

TP20-12 S1

F2 (C10 to C16)	CCME Tier 1	µg/g	16	10
F3 (C16 to C34)	CCME Tier 1	µg/g	1140	240
F4 (C34 to C50)	CCME Tier 1	µg/g	3560	120
Acenaphthene	EPA 3541/8270D	µg/g	< 0.1	0.072
Acenaphthylene	EPA 3541/8270D	µg/g	< 0.1	0.093
Dibenz(a,h)anthracene	EPA 3541/8270D	µg/g	< 0.2	0.1
Naphthalene	EPA 3541/8270D	µg/g	< 0.1	0.09

TP20-13 S1

F3 (C16 to C34)	CCME Tier 1	µg/g	1450	240
F4 (C34 to C50)	CCME Tier 1	µg/g	4240	120
Acenaphthene	EPA 3541/8270D	µg/g	< 0.1	0.072
Acenaphthylene	EPA 3541/8270D	µg/g	< 0.1	0.093
Dibenz(a,h)anthracene	EPA 3541/8270D	µg/g	< 0.2	0.1
Naphthalene	EPA 3541/8270D	µg/g	< 0.1	0.09

TP20-15 S1

F3 (C16 to C34)	CCME Tier 1	µg/g	1350	240
F4 (C34 to C50)	CCME Tier 1	µg/g	3140	120
Acenaphthene	EPA 3541/8270D	µg/g	< 0.1	0.072
Acenaphthylene	EPA 3541/8270D	µg/g	< 0.1	0.093
Dibenz(a,h)anthracene	EPA 3541/8270D	µg/g	0.14	0.1

EXCEEDANCE SUMMARY

				REG153 / SOIL / COARSE - TABLE 1 - Residential/Parklan d/Industrial - UNDEFINED L1
Parameter	Method	Units	Result	

TP20-15 S1 (continued)

Naphthalene	EPA 3541/8270D	µg/g	< 0.1	0.09
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TP20-17 S1

F2 (C10 to C16)	CCME Tier 1	µg/g	11	10
F3 (C16 to C34)	CCME Tier 1	µg/g	1290	240
F4 (C34 to C50)	CCME Tier 1	µg/g	2830	120
Acenaphthene	EPA 3541/8270D	µg/g	< 0.1	0.072
Acenaphthylene	EPA 3541/8270D	µg/g	< 0.1	0.093
Naphthalene	EPA 3541/8270D	µg/g	< 0.1	0.09

TP20-18 S1

F4 (C34 to C50)	CCME Tier 1	µg/g	199	120
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TP20-19 S1

F2 (C10 to C16)	CCME Tier 1	µg/g	14	10
F3 (C16 to C34)	CCME Tier 1	µg/g	1630	240
F4 (C34 to C50)	CCME Tier 1	µg/g	5110	120
Acenaphthene	EPA 3541/8270D	µg/g	< 0.1	0.072
Acenaphthylene	EPA 3541/8270D	µg/g	< 0.1	0.093
Dibenz(a,h)anthracene	EPA 3541/8270D	µg/g	0.13	0.1
Naphthalene	EPA 3541/8270D	µg/g	< 0.1	0.09

TP20-20 S1

F2 (C10 to C16)	CCME Tier 1	µg/g	13	10
F3 (C16 to C34)	CCME Tier 1	µg/g	1110	240
F4 (C34 to C50)	CCME Tier 1	µg/g	3510	120
Acenaphthene	EPA 3541/8270D	µg/g	< 0.1	0.072
Acenaphthylene	EPA 3541/8270D	µg/g	< 0.1	0.093
Dibenz(a,h)anthracene	EPA 3541/8270D	µg/g	0.11	0.1
Naphthalene	EPA 3541/8270D	µg/g	< 0.1	0.09

TP20-21 S1

F2 (C10 to C16)	CCME Tier 1	µg/g	12	10
F3 (C16 to C34)	CCME Tier 1	µg/g	832	240
F4 (C34 to C50)	CCME Tier 1	µg/g	2680	120
Acenaphthene	EPA 3541/8270D	µg/g	< 0.1	0.072
Acenaphthylene	EPA 3541/8270D	µg/g	< 0.1	0.093
Naphthalene	EPA 3541/8270D	µg/g	< 0.1	0.09

TP20-22 S1



PRELIMINARY
REPORT

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EXCEEDANCE SUMMARY

				REG153 / SOIL / COARSE - TABLE 1 - Residential/Parklan d/Industrial - UNDEFINED
Parameter	Method	Units	Result	L1

TP20-22 S1 (continued)

F2 (C10 to C16)	CCME Tier 1	µg/g	14	10
F3 (C16 to C34)	CCME Tier 1	µg/g	1630	240
F4 (C34 to C50)	CCME Tier 1	µg/g	3880	120
Acenaphthene	EPA 3541/8270D	µg/g	< 0.1	0.072
Acenaphthylene	EPA 3541/8270D	µg/g	< 0.1	0.093
Dibenz(a,h)anthracene	EPA 3541/8270D	µg/g	0.13	0.1
Indeno(1,2,3-cd)pyrene	EPA 3541/8270D	µg/g	0.25	0.23
Naphthalene	EPA 3541/8270D	µg/g	< 0.1	0.09

HOLDING TIME SUMMARY

Sample Name	QC Batch Reference	Sample Number	Sampled	Received	Extracted/ Prepared	Analysed	Holding Time	Approved
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Conductivity

Method: EPA 6010/SM 2510 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-006

TP20-10 S1	EWL0008-JUN20	12	05/29/2020	05/29/2020	06/01/2020	06/02/2020	06/26/2020	06/02/2020
TP20-19 S1	EWL0008-JUN20	21	05/29/2020	05/29/2020	06/01/2020	06/02/2020	06/26/2020	06/02/2020
TP20-20 S1	EWL0035-JUN20	22	05/29/2020	05/29/2020	06/01/2020	06/02/2020	06/26/2020	06/02/2020
TP21- C1	EWL0008-JUN20	25	05/29/2020	05/29/2020	06/01/2020	06/02/2020	06/26/2020	06/02/2020
TP21- C2	EWL0008-JUN20	26	05/29/2020	05/29/2020	06/01/2020	06/02/2020	06/26/2020	06/02/2020
TP21- C3	EWL0008-JUN20	27	05/29/2020	05/29/2020	06/01/2020	06/02/2020	06/26/2020	06/02/2020
TP21- C4	EWL0008-JUN20	28	05/29/2020	05/29/2020	06/01/2020	06/02/2020	06/26/2020	06/02/2020
TP21- C5	EWL0008-JUN20	29	05/29/2020	05/29/2020	06/01/2020	06/02/2020	06/26/2020	06/02/2020
DUP5	EWL0008-JUN20	30	05/29/2020	05/29/2020	06/01/2020	06/02/2020	06/26/2020	06/02/2020

Cyanide by SFA

Method: SM 4500 | Internal ref.: ME-CA-[ENV]SFA-LAK-AN-005

TP20-10 S1	SKA5139-MAY20	12	05/29/2020	05/29/2020	05/29/2020	06/01/2020	06/12/2020	06/02/2020
TP20-19 S1	SKA5139-MAY20	21	05/29/2020	05/29/2020	05/29/2020	06/01/2020	06/12/2020	06/02/2020
TP20-20 S1	SKA5003-JUN20	22	05/29/2020	05/29/2020	05/29/2020	06/01/2020	06/12/2020	06/02/2020

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-[ENV]SKA-LAK-AN-012

TP20-10 S1	SKA5144-MAY20	12	05/29/2020	05/29/2020	06/01/2020	06/02/2020	06/28/2020	06/02/2020
TP20-19 S1	SKA5144-MAY20	21	05/29/2020	05/29/2020	06/01/2020	06/02/2020	06/28/2020	06/02/2020
TP20-20 S1	SKA5000-JUN20	22	05/29/2020	05/29/2020	06/01/2020	06/02/2020	06/28/2020	06/02/2020

Mercury by CVAAS

Method: EPA 7471A/EPA 245 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-004

TP20-8 S1	EMS0010-JUN20	8	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/26/2020	06/03/2020
DUP-3	EMS0010-JUN20	9	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/26/2020	06/03/2020
TP20-9 S1	EMS0010-JUN20	10	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/26/2020	06/03/2020
DUP-4	EMS0010-JUN20	11	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/26/2020	06/03/2020
TP20-10 S1	EMS0138-MAY20	12	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/26/2020	06/03/2020
TP20-19 S1	EMS0138-MAY20	21	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/26/2020	06/03/2020
TP20-20 S1	EMS0007-JUN20	22	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/26/2020	06/03/2020

Metals in aqueous samples - ICP-OES

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-003

TP20-10 S1	ESG0002-JUN20	12	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/02/2020
TP20-19 S1	ESG0002-JUN20	21	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/02/2020
TP20-20 S1	ESG0005-JUN20	22	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/02/2020

Metals in Soil - Aqua-regia/ICP-MS

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-005

TP20-8 S1	EMS0010-JUN20	8	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
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PRELIMINARY REPORT

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HOLDING TIME SUMMARY

Sample Name	QC Batch Reference	Sample Number	Sampled	Received	Extracted/ Prepared	Analysed	Holding Time	Approved
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Metals in Soil - Aqua-regia/ICP-MS (continued)

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-[ENV]SPE-LAK-AN-005

DUP-3	EMS0010-JUN20	9	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-9 S1	EMS0010-JUN20	10	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
DUP-4	EMS0010-JUN20	11	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-10 S1	EMS0138-MAY20	12	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-11 S1	EMS0009-JUN20	13	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-12 S1	EMS0009-JUN20	14	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-13 S1	EMS0009-JUN20	15	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-14 S1	EMS0009-JUN20	16	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-15 S1	EMS0009-JUN20	17	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-16 S1	EMS0009-JUN20	18	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-17 S1	EMS0009-JUN20	19	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-18 S1	EMS0009-JUN20	20	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-19 S1	EMS0138-MAY20	21	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-20 S1	EMS0007-JUN20	22	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-21 S1	EMS0009-JUN20	23	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020
TP20-22 S1	EMS0009-JUN20	24	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/03/2020

Moisture

Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

TP20-8 S1	GCM0410-MAY20	8	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
DUP-3	GCM0410-MAY20	9	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-9 S1	GCM0410-MAY20	10	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
DUP-4	GCM0410-MAY20	11	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-10 S1	GCM0410-MAY20	12	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-11 S1	GCM0410-MAY20	13	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-12 S1	GCM0410-MAY20	14	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-13 S1	GCM0410-MAY20	15	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-14 S1	GCM0410-MAY20	16	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-15 S1	GCM0410-MAY20	17	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-16 S1	GCM0410-MAY20	18	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-17 S1	GCM0410-MAY20	19	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-18 S1	GCM0410-MAY20	20	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-19 S1	GCM0410-MAY20	21	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-20 S1	GCM0410-MAY20	22	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-21 S1	GCM0410-MAY20	23	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020
TP20-22 S1	GCM0410-MAY20	24	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/28/2020	06/01/2020

Petroleum Hydrocarbons (F1)

Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010



PRELIMINARY REPORT

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HOLDING TIME SUMMARY

Sample Name	QC Batch Reference	Sample Number	Sampled	Received	Extracted/ Prepared	Analysed	Holding Time	Approved
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Petroleum Hydrocarbons (F1) (continued)

Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

TP20-12 S1	GCM0023-JUN20	14	05/29/2020	05/29/2020	05/31/2020	06/01/2020	06/12/2020	06/02/2020
TP20-13 S1	GCM0023-JUN20	15	05/29/2020	05/29/2020	05/31/2020	06/01/2020	06/12/2020	06/02/2020
TP20-15 S1	GCM0023-JUN20	17	05/29/2020	05/29/2020	05/31/2020	06/01/2020	06/12/2020	06/02/2020
TP20-16 S1	GCM0023-JUN20	18	05/29/2020	05/29/2020	05/31/2020	06/01/2020	06/12/2020	06/02/2020
TP20-17 S1	GCM0023-JUN20	19	05/29/2020	05/29/2020	05/31/2020	06/01/2020	06/12/2020	06/02/2020
TP20-19 S1	GCM0023-JUN20	21	05/29/2020	05/29/2020	05/31/2020	06/01/2020	06/12/2020	06/02/2020
TP20-20 S1	GCM0023-JUN20	22	05/29/2020	05/29/2020	05/31/2020	06/01/2020	06/12/2020	06/02/2020
TP20-21 S1	GCM0023-JUN20	23	05/29/2020	05/29/2020	05/31/2020	06/01/2020	06/12/2020	06/02/2020
TP20-22 S1	GCM0023-JUN20	24	05/29/2020	05/29/2020	05/31/2020	06/01/2020	06/12/2020	06/02/2020

Petroleum Hydrocarbons (F2-F4)

Method: CCME Tier 1 | Internal ref.: ME-CA-[ENV]GC-LAK-AN-010

TP20-8 S1	GCM0417-MAY20	8	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
DUP-3	GCM0417-MAY20	9	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-9 S1	GCM0417-MAY20	10	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
DUP-4	GCM0417-MAY20	11	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-10 S1	GCM0417-MAY20	12	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-11 S1	GCM0417-MAY20	13	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-12 S1	GCM0417-MAY20	14	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-13 S1	GCM0417-MAY20	15	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-14 S1	GCM0417-MAY20	16	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-15 S1	GCM0417-MAY20	17	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-16 S1	GCM0417-MAY20	18	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-17 S1	GCM0417-MAY20	19	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-18 S1	GCM0417-MAY20	20	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-19 S1	GCM0417-MAY20	21	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-20 S1	GCM0417-MAY20	22	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-21 S1	GCM0417-MAY20	23	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020
TP20-22 S1	GCM0417-MAY20	24	05/29/2020	05/29/2020	05/31/2020	06/01/2020	07/08/2020	06/02/2020

pH

Method: SM 4500 | Internal ref.: ME-CA-[ENV]EWL-LAK-AN-001

TP20-10 S1	ARD0002-JUN20	12	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/28/2020	06/02/2020
TP20-19 S1	ARD0002-JUN20	21	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/28/2020	06/02/2020
TP20-20 S1	ARD0012-JUN20	22	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/28/2020	06/02/2020

Semi-Volatile Organics

Method: EPA 3541/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

TP20-8 S1	GCM0416-MAY20	8	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
DUP-3	GCM0416-MAY20	9	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020

HOLDING TIME SUMMARY

Sample Name	QC Batch Reference	Sample Number	Sampled	Received	Extracted/ Prepared	Analysed	Holding Time	Approved
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Semi-Volatile Organics (continued)

Method: EPA 3541/8270D | Internal ref.: ME-CA-[ENV]GC-LAK-AN-005

TP20-9 S1	GCM0416-MAY20	10	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-10 S1	GCM0416-MAY20	12	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-11 S1	GCM0416-MAY20	13	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-12 S1	GCM0416-MAY20	14	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-13 S1	GCM0416-MAY20	15	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-14 S1	GCM0416-MAY20	16	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-15 S1	GCM0416-MAY20	17	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-16 S1	GCM0416-MAY20	18	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-17 S1	GCM0416-MAY20	19	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-18 S1	GCM0416-MAY20	20	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-19 S1	GCM0416-MAY20	21	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-20 S1	GCM0416-MAY20	22	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-21 S1	GCM0416-MAY20	23	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020
TP20-22 S1	GCM0416-MAY20	24	05/29/2020	05/29/2020	05/31/2020	06/02/2020	07/08/2020	06/02/2020

Sodium adsorption ratio (SAR)

Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-[ENV]JARD-LAK-AN-021

TP20-10 S1	ESG0002-JUN20	12	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/02/2020
TP20-19 S1	ESG0002-JUN20	21	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/02/2020
TP20-20 S1	ESG0005-JUN20	22	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/02/2020

Volatile Organics

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-[ENV]GC-LAK-AN-004

TP20-12 S1	GCM0023-JUN20	14	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/12/2020	06/02/2020
TP20-13 S1	GCM0023-JUN20	15	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/12/2020	06/02/2020
TP20-15 S1	GCM0023-JUN20	17	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/12/2020	06/02/2020
TP20-16 S1	GCM0023-JUN20	18	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/12/2020	06/02/2020
TP20-17 S1	GCM0023-JUN20	19	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/12/2020	06/02/2020
TP20-19 S1	GCM0023-JUN20	21	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/12/2020	06/02/2020
TP20-20 S1	GCM0023-JUN20	22	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/12/2020	06/02/2020
TP20-21 S1	GCM0023-JUN20	23	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/12/2020	06/02/2020
TP20-22 S1	GCM0023-JUN20	24	05/29/2020	05/29/2020	06/01/2020	06/01/2020	06/12/2020	06/02/2020

Water Soluble Boron

Method: O.Reg. 153/04 | Internal ref.: ME-CA-[ENV] SPE-LAK-AN-003

TP20-10 S1	ESG0007-JUN20	12	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/02/2020
TP20-19 S1	ESG0007-JUN20	21	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/02/2020
TP20-20 S1	ESG0004-JUN20	22	05/29/2020	05/29/2020	06/01/2020	06/01/2020	11/25/2020	06/02/2020



PRELIMINARY REPORT

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QC SUMMARY

Conductivity
Method: EPA 6010/SM 2510 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-006

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Conductivity	EWL0008-JUN20	mS/cm	0.002	<0.002	0	10	99	90	110	NA		
Conductivity	EWL0035-JUN20	mS/cm	0.002	<0.002	0	10	99	90	110	NA		

Cyanide by SFA
Method: SM 4500 | Internal ref.: ME-CA-IENVISFA-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Free Cyanide	SKA5003-JUN20	µg/g	0.05	<0.05	ND	20	100	80	120	96	75	125
Free Cyanide	SKA5139-MAY20	µg/g	0.05	<0.05	ND	20	103	80	120	92	75	125



PRELIMINARY REPORT

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QC SUMMARY

Hexavalent Chromium by SFA

Method: EPA218.6/EPA3060A | Internal ref.: ME-CA-IENVISKA-LAK-AN-012

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium VI	SKA5000-JUN20	ug/g	0.2	<0.2	0	20	92	80	120	92	75	125
Chromium VI	SKA5144-MAY20	ug/g	0.2	<0.2	0	20	90	80	120	94	75	125

Mercury by CVAAS

Method: EPA 7471A/EPA 245 | Internal ref.: ME-CA-IENVISPE-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Mercury	EMS0007-JUN20	µg/g	0.05	<0.05	ND	20	101	80	120	94	70	130
Mercury	EMS0010-JUN20	µg/g	0.05	<0.05	ND	20	101	80	120	90	70	130
Mercury	EMS0138-MAY20	µg/g	0.05	<0.05	ND	20	103	80	120	98	70	130



PRELIMINARY REPORT

CA15958-MAY20 R1

QC SUMMARY

Metals in aqueous samples - ICP-OES
Method: MOE 4696e01/EPA 6010 | Internal ref.: ME-CA-1ENVISPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
SAR Sodium	ESG0002-JUN20	mg/L	0.15	<0.15	12	20	92	80	120	112	70	130
SAR Calcium	ESG0005-JUN20	mg/L	0.09	<0.09	0	20	99	80	120	107	70	130
SAR Magnesium	ESG0005-JUN20	mg/L	0.02	<0.02	2	20	101	80	120	101	70	130
SAR Sodium	ESG0005-JUN20	mg/L	0.15	<0.15	4	20	99	80	120	97	70	130
SAR Calcium	ESG0002-JUN20	mg/L	0.09	<0.09	11	20	103	80	120	115	70	130
SAR Magnesium	ESG0002-JUN20	mg/L	0.02	<0.02	15	20	93	80	120	102	70	130



PRELIMINARY REPORT

CA15958-MAY20 R1

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Silver	EMS0007-JUN20	ug/g	0.05	<0.05	ND	20	102	70	130	106	70	130
Arsenic	EMS0007-JUN20	µg/g	0.5	<0.5	7	20	99	70	130	91	70	130
Barium	EMS0007-JUN20	ug/g	0.1	<0.1	3	20	107	70	130	95	70	130
Beryllium	EMS0007-JUN20	µg/g	0.02	<0.02	2	20	97	70	130	96	70	130
Boron	EMS0007-JUN20	µg/g	1	<1	2	20	103	70	130	97	70	130
Cadmium	EMS0007-JUN20	µg/g	0.02	<0.02	4	20	100	70	130	104	70	130
Cobalt	EMS0007-JUN20	µg/g	0.01	<0.01	4	20	102	70	130	107	70	130
Chromium	EMS0007-JUN20	µg/g	0.5	<0.5	0	20	102	70	130	110	70	130
Copper	EMS0007-JUN20	µg/g	0.1	<0.1	8	20	104	70	130	107	70	130
Molybdenum	EMS0007-JUN20	µg/g	0.1	<0.1	4	20	90	70	130	100	70	130
Nickel	EMS0007-JUN20	ug/g	0.5	<0.5	4	20	102	70	130	110	70	130
Lead	EMS0007-JUN20	µg/g	0.1	<0.1	0	20	106	70	130	103	70	130
Antimony	EMS0007-JUN20	µg/g	0.8	<0.8	ND	20	90	70	130	108	70	130
Selenium	EMS0007-JUN20	µg/g	0.7	<0.7	ND	20	101	70	130	100	70	130
Thallium	EMS0007-JUN20	µg/g	0.02	<0.02	10	20	107	70	130	101	70	130
Uranium	EMS0007-JUN20	µg/g	0.002	<0.002	7	20	103	70	130	99	70	130
Vanadium	EMS0007-JUN20	µg/g	3	<3	2	20	102	70	130	104	70	130
Zinc	EMS0007-JUN20	µg/g	0.7	<0.7	2	20	103	70	130	103	70	130
Silver	EMS0009-JUN20	ug/g	0.05	<0.05	ND	20	102	70	130	108	70	130
Barium	EMS0009-JUN20	ug/g	0.1	<0.1	1	20	107	70	130	101	70	130



PRELIMINARY REPORT

CA15958-MAY20 R1

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS (continued)

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Beryllium	EMS0009-JUN20	µg/g	0.02	<0.02	2	20	97	70	130	89	70	130
Boron	EMS0009-JUN20	µg/g	1	<1	2	20	103	70	130	96	70	130
Cadmium	EMS0009-JUN20	µg/g	0.02	<0.02	3	20	100	70	130	107	70	130
Cobalt	EMS0009-JUN20	µg/g	0.01	<0.01	1	20	102	70	130	110	70	130
Chromium	EMS0009-JUN20	µg/g	0.5	<0.5	3	20	102	70	130	110	70	130
Copper	EMS0009-JUN20	µg/g	0.1	<0.1	2	20	104	70	130	111	70	130
Molybdenum	EMS0009-JUN20	µg/g	0.1	<0.1	7	20	90	70	130	92	70	130
Nickel	EMS0009-JUN20	ug/g	0.5	<0.5	3	20	102	70	130	112	70	130
Lead	EMS0009-JUN20	µg/g	0.1	<0.1	0	20	106	70	130	105	70	130
Thallium	EMS0009-JUN20	µg/g	0.02	<0.02	4	20	107	70	130	105	70	130
Uranium	EMS0009-JUN20	µg/g	0.002	<0.002	0	20	103	70	130	100	70	130
Vanadium	EMS0009-JUN20	µg/g	3	<3	0	20	102	70	130	104	70	130
Zinc	EMS0009-JUN20	µg/g	0.7	<0.7	1	20	103	70	130	107	70	130
Silver	EMS0010-JUN20	ug/g	0.05	<0.05	20	20	102	70	130	105	70	130
Arsenic	EMS0010-JUN20	µg/g	0.5	<0.5	6	20	99	70	130	89	70	130
Barium	EMS0010-JUN20	ug/g	0.1	<0.1	2	20	107	70	130	110	70	130
Beryllium	EMS0010-JUN20	µg/g	0.02	<0.02	3	20	97	70	130	88	70	130
Boron	EMS0010-JUN20	µg/g	1	<1	8	20	103	70	130	97	70	130
Cadmium	EMS0010-JUN20	µg/g	0.02	<0.02	ND	20	100	70	130	106	70	130
Cobalt	EMS0010-JUN20	µg/g	0.01	<0.01	2	20	102	70	130	111	70	130



PRELIMINARY REPORT

CA15958-MAY20 R1

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS (continued)

Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Chromium	EMS0010-JUN20	µg/g	0.5	<0.5	3	20	102	70	130	110	70	130
Copper	EMS0010-JUN20	µg/g	0.1	<0.1	1	20	104	70	130	108	70	130
Molybdenum	EMS0010-JUN20	µg/g	0.1	<0.1	ND	20	90	70	130	93	70	130
Nickel	EMS0010-JUN20	ug/g	0.5	<0.5	4	20	102	70	130	111	70	130
Lead	EMS0010-JUN20	µg/g	0.1	<0.1	1	20	106	70	130	100	70	130
Antimony	EMS0010-JUN20	µg/g	0.8	<0.8	ND	20	104	70	130	117	70	130
Selenium	EMS0010-JUN20	µg/g	0.7	<0.7	ND	20	101	70	130	101	70	130
Thallium	EMS0010-JUN20	µg/g	0.02	<0.02	14	20	107	70	130	102	70	130
Uranium	EMS0010-JUN20	µg/g	0.002	<0.002	4	20	103	70	130	95	70	130
Vanadium	EMS0010-JUN20	µg/g	3	<3	1	20	102	70	130	107	70	130
Zinc	EMS0010-JUN20	µg/g	0.7	<0.7	3	20	103	70	130	104	70	130
Silver	EMS0138-MAY20	ug/g	0.05	<0.05	0	20	98	70	130	113	70	130
Arsenic	EMS0138-MAY20	µg/g	0.5	<0.5	ND	20	100	70	130	103	70	130
Barium	EMS0138-MAY20	ug/g	0.1	<0.1	5	20	109	70	130	104	70	130
Beryllium	EMS0138-MAY20	µg/g	0.02	<0.02	5	20	99	70	130	101	70	130
Boron	EMS0138-MAY20	µg/g	1	<1	4	20	101	70	130	103	70	130
Cadmium	EMS0138-MAY20	µg/g	0.02	<0.02	ND	20	95	70	130	113	70	130
Cobalt	EMS0138-MAY20	µg/g	0.01	<0.01	20	20	94	70	130	118	70	130
Chromium	EMS0138-MAY20	µg/g	0.5	<0.5	11	20	95	70	130	118	70	130
Copper	EMS0138-MAY20	µg/g	0.1	<0.1	10	20	96	70	130	114	70	130



PRELIMINARY REPORT

CA15958-MAY20 R1

QC SUMMARY

Metals in Soil - Aqua-regia/ICP-MS (continued)
Method: EPA 3050/EPA 200.8 | Internal ref.: ME-CA-IENVISPE-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Molybdenum	EMS0138-MAY20	µg/g	0.1	<0.1	7	20	92	70	130	118	70	130
Nickel	EMS0138-MAY20	ug/g	0.5	<0.5	3	20	94	70	130	118	70	130
Lead	EMS0138-MAY20	µg/g	0.1	<0.1	ND	20	105	70	130	108	70	130
Antimony	EMS0138-MAY20	µg/g	0.8	<0.8	ND	20	98	70	130	123	70	130
Selenium	EMS0138-MAY20	µg/g	0.7	<0.7	ND	20	99	70	130	110	70	130
Thallium	EMS0138-MAY20	µg/g	0.02	<0.02	8	20	104	70	130	114	70	130
Uranium	EMS0138-MAY20	µg/g	0.002	<0.002	6	20	102	70	130	100	70	130
Vanadium	EMS0138-MAY20	µg/g	3	<3	3	20	98	70	130	116	70	130
Zinc	EMS0138-MAY20	µg/g	0.7	<0.7	ND	20	98	70	130	111	70	130

Petroleum Hydrocarbons (F1)
Method: CCME Tier 1 | Internal ref.: ME-CA-IENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F1 (C6-C10)	GCM0023-JUN20	µg/g	10	<10	ND	30	94	80	120	97	60	140



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QC SUMMARY

Petroleum Hydrocarbons (F2-F4)
Method: CCME Tier 1 | Internal ref.: ME-CA-IENVIGC-LAK-AN-010

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
F2 (C10-C16)	GCM0417-MAY20	µg/g	10	<10	ND	30	108	80	120	99	60	140
F3 (C16-C34)	GCM0417-MAY20	µg/g	50	<50	ND	30	108	80	120	99	60	140
F4 (C34-C50)	GCM0417-MAY20	µg/g	50	<50	ND	30	108	80	120	99	60	140

pH
Method: SM 4500 | Internal ref.: ME-CA-IENVIEWL-LAK-AN-001

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
pH	ARD0002-JUN20	pH Units	0.05		0	20	100	80	120			
pH	ARD0012-JUN20	pH Units	0.05		0	20	100	80	120			



PRELIMINARY REPORT

CA15958-MAY20 R1

QC SUMMARY

Semi-Volatile Organics

Method: EPA 3541/8270D | Internal ref.: ME-CA-IENVIGC-LAK-AN-005

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
1-Methylnaphthalene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	82	50	140	83	50	140
2-Methylnaphthalene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	78	50	140	81	50	140
Acenaphthene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	91	50	140	91	50	140
Acenaphthylene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	89	50	140	94	50	140
Anthracene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	88	50	140	85	50	140
Benzo(a)anthracene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	89	50	140	94	50	140
Benzo(a)pyrene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	89	50	140	94	50	140
Benzo(b+j)fluoranthene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	84	50	140	88	50	140
Benzo(ghi)perylene	GCM0416-MAY20	µg/g	0.1	< 0.1	ND	40	88	50	140	89	50	140
Benzo(k)fluoranthene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	87	50	140	96	50	140
Chrysene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	92	50	140	89	50	140
Dibenzo(a,h)anthracene	GCM0416-MAY20	µg/g	0.06	< 0.06	ND	40	87	50	140	76	50	140
Fluoranthene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	92	50	140	86	50	140
Fluorene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	88	50	140	84	50	140
Indeno(1,2,3-cd)pyrene	GCM0416-MAY20	µg/g	0.1	< 0.1	ND	40	89	50	140	79	50	140
Naphthalene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	90	50	140	85	50	140
Phenanthrene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	90	50	140	85	50	140
Pyrene	GCM0416-MAY20	µg/g	0.05	< 0.05	ND	40	96	50	140	87	50	140



PRELIMINARY REPORT

CA15958-MAY20 R1

QC SUMMARY

Volatile Organics

Method: EPA 5035A/5030B/8260C | Internal ref.: ME-CA-IENVIGC-LAK-AN-004

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Benzene	GCM0023-JUN20	µg/g	0.02	<0.02	ND	50	86	60	130	89	50	140
Ethylbenzene	GCM0023-JUN20	µg/g	0.05	<0.05	ND	50	80	60	130	85	50	140
m/p-xylene	GCM0023-JUN20	µg/g	0.05	<0.05	ND	50	82	60	130	88	50	140
o-xylene	GCM0023-JUN20	µg/g	0.05	<0.05	ND	50	81	60	130	88	50	140
Toluene	GCM0023-JUN20	µg/g	0.05	<0.05	ND	50	83	60	130	87	50	140

Water Soluble Boron

Method: O.Req. 153/04 | Internal ref.: ME-CA-IENVI SPE-LAK-AN-003

Parameter	QC batch Reference	Units	RL	Method Blank	Duplicate		LCS/Spike Blank			Matrix Spike / Ref.		
					RPD	AC (%)	Spike Recovery (%)	Recovery Limits (%)		Spike Recovery (%)	Recovery Limits (%)	
								Low	High		Low	High
Water Soluble Boron	ESG0004-JUN20	µg/g	0.5	< 0.5	ND	20	100	80	120	110	70	130
Water Soluble Boron	ESG0007-JUN20	µg/g	0.5	<0.5	ND	20	104	80	120	122	70	130



PRELIMINARY REPORT

CA15958-MAY20 R1

QC SUMMARY

Method Blank: a blank matrix that is carried through the entire analytical procedure. Used to assess laboratory contamination.

Duplicate: Paired analysis of a separate portion of the same sample that is carried through the entire analytical procedure. Used to evaluate measurement precision.

LCS/Spike Blank: Laboratory control sample or spike blank refer to a blank matrix to which a known amount of analyte has been added. Used to evaluate analyte recovery and laboratory accuracy without sample matrix effects.

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate laboratory accuracy with sample matrix effects.

Reference Material: a material or substance matrix matched to the samples that contains a known amount of the analyte of interest. A reference material may be used in place of a matrix spike.

RL: Reporting limit

RPD: Relative percent difference

AC: Acceptance criteria

Multielement Scan Qualifier: as the number of analytes in a scan increases, so does the chance of a limit exceedance by random chance as opposed to a real method problem. Thus, in multielement scans, for the LCS and matrix spike, up to 10% of the analytes may exceed the quoted limits by up to 10% absolute and the spike is considered acceptable.

Duplicate Qualifier: for duplicates as the measured result approaches the RL, the uncertainty associated with the value increases dramatically, thus duplicate acceptance limits apply only where the average of the two duplicates is greater than five times the RL.

Matrix Spike Qualifier: for matrix spikes, as the concentration of the native analyte increases, the uncertainty of the matrix spike recovery increases. Thus, the matrix spike acceptance limits apply only when the concentration of the matrix spike is greater than or equal to the concentration of the native analyte.

LEGEND

FOOTNOTES

NSS Insufficient sample for analysis.

RL Reporting Limit.

↑ Reporting limit raised.

↓ Reporting limit lowered.

NA The sample was not analysed for this analyte

ND Non Detect

Samples analysed as received. Solid samples expressed on a dry weight basis. "Temperature Upon Receipt" is representative of the whole shipment and may not reflect the temperature of individual samples.

Analysis conducted on samples submitted pursuant to or as part of Reg. 153/04, are in accordance to the Protocol for Analytical Methods Used in the Assessment of Properties under Part XV.1 of the Environmental Protection Act" published by the Ministry and dated March 9, 2004 as amended.

SGS provides criteria information (such as regulatory or guideline limits and summary of limit exceedances) as a service. Every attempt is made to ensure the criteria information in this report is accurate and current, however, it is not guaranteed. Comparison to the most current criteria is the responsibility of the client and SGS assumes no responsibility for the accuracy of the criteria levels indicated. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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-- End of Analytical Report --



Environment, Health & Safety

Request for Laboratory Services and CHAIN OF CUSTODY

Lakeland: 185 Concession St., Lakeland, ON N4L 2H0 Phone: 705-652-2000 Fax: 705-652-5395 Web: www.sgs.com/environment
London: 657 Concession Court, London, ON, N6E 2S8 Phone: 519-672-4500 Toll Free: 877-848-8060 Fax: 519-672-0361

No:

Page 1 of 2

Received By: Scott Le
Received Date: 03/29/2019 (mm/dd/yy)
Received Time: 13:51 (hr:min)

Received By (Signature):
Custody Seal Present: ☒ Yes ☐ No
Custody Seal Intact: ☒ Yes ☐ No

Cooling Agent Present: ☒ Yes ☐ No
Temperature Upon Receipt (°C): 17.0

LAB LIMS #: CA-18958-11498

REPORT INFORMATION

INVOICE INFORMATION

Company: DS Consultants Ltd
Contact: Rick Fioravanti
Address: 6221 Highway 7, Unit 16,
Vaughan, ON
Phone: 647-234-5131
Fax: _____
Email: rick.fioravanti@dsconsultants.ca

☒ (same as Report Information)
Company: _____
Contact: Patricia Derveni
Address: _____
Phone: _____
Email: accounting@dsconsultants.ca

Quotation #: _____
Project #: 19-040-101
P.O. #: _____
Site Location/ID: 8079 8th Line
TURNAROUND TIME (TAT) REQUIRED
☐ Regular TAT (5-7days)
RUSH TAT (Additional Charges May Apply): ☒ 1 Day ☐ 2 Days ☐ 3 Days ☐ 4 Days
PLEASE CONFIRM RUSH FEASIBILITY WITH SGS REPRESENTATIVE PRIOR TO SUBMISSION
Specify Due Date: Morning June 2
NOTE: DRINKING (POTABLE) WATER SAMPLES FOR HUMAN CONSUMPTION MUST BE SUBMITTED WITH SGS DRINKING WATER CHAIN OF CUSTODY

REGULATIONS

Regulation 153/04:
☒ Table 1 ☒ Res/Park ☒ Soil Texture:
☐ Table 2 ☒ Ind/Com ☐ Coarse
☐ Table 3 ☐ Agr/Other ☐ Medium/
☐ Table ☐ Fine
Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☐ PWCO ☐ MMER
☐ CCME ☐ Other: _____
Sewer By-Law:
☐ Sanitary
☐ Storm
Municipality: _____

RECORD OF SITE CONDITION (RSC) ☒ YES ☐ NO

SAMPLE IDENTIFICATION

DATE SAMPLED	TIME SAMPLED	# OF BOTTLES	MATRIX	Field Filtered (Y/N)	Metals & Inorganics incl CrVI, CN, Hg, pH, B(HWS), EC, SAR, soil (Cl, Na-water)	Full Metals Suite ICP metals plus B(HWS-soil only) Hg, CrVI	ICP Metals only Sb, As, Ba, Be, B, Cd, Cr, Co, Cu, Pb, Mo, Ni, Se, Ag, Ti, U, V, Zn	PAHs only	SVOCs all incl PAHs, ABNs, CPs	PCBs Total <input type="checkbox"/> Aroclor <input type="checkbox"/>	F1-F4 + BTEX	F1-F4 only no BTEX	VOCs all incl BTEX	BTEX only	Pesticides Organochlorine or specify other	PHC F2-F4	Sewer Use: Specify pkg:	Water Characterization Pkg General <input type="checkbox"/> Extended <input type="checkbox"/> Specific <input type="checkbox"/> TCLP <input type="checkbox"/> tests <input type="checkbox"/> M&I <input type="checkbox"/> PCB <input type="checkbox"/> B(a)P <input type="checkbox"/> As/N <input type="checkbox"/> pH	TCLP
1 TP20-8 S1	May 29, 2020	pm	4	Soil															
2 DUP-3	May 29, 2020	pm	4	Soil															
3 TP20-9 S1	May 29, 2020	pm	4	Soil															
4 DUP-4	May 29, 2020	pm	4	Soil															
5 TP20-10 S1	May 29, 2020	pm	4	Soil															
6 TP20-11 S1	May 29, 2020	pm	4	Soil															
7 TP20-12 S1	May 29, 2020	pm	4	Soil															
8 TP20-13 S1	May 29, 2020	pm	4	Soil															
9 TP20-14 S1	May 29, 2020	pm	4	Soil															
10 TP20-15 S1	May 29, 2020	pm	4	Soil															
11 TP20-16 S1	May 29, 2020	pm	4	Soil															
12 TP20-17 S1	May 29, 2020	pm	4	Soil															

Observations/Comments/Special Instructions

Sampled By (NAME): SAOB

Signature: [Signature]

Date: 20.05.29

(mm/dd/yy)

Relinquished By (NAME): SAOB

Signature: [Signature]

Date: 20.05.29

(mm/dd/yy)

Yellow & White Copy - SGS

Pink Copy - Client

Revision # 1.3

Date of Issue: 13 Oct, 2019

Note: Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection, handling and transportation of samples. (2) Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). (3) Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

